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ROYAL BURGH OF STIRLING

ANNUAL REPORT

ON THE

GENERAL SANITARY CONDITION
OF THE BURGH

BY

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For the Year 1926.

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Sanitary Department,
Municipal Buildings,
Stirling, 15th June, 1927.

To the Honourable the Scottish Board of Health, and the
Provost, Magistrates, and Councillors of the
Royal Burgh of Stirling.

Ladies and Gentlemen,

I have the honour of submitting to you my Annual Report upon the General Sanitary Condition of the Burgh, and the work accomplished by the Sanitary Department during the year 1926.

The Report has been prepared in accordance with the requirements of the Scottish Board of Health.

I have the honour to remain,
Ladies and Gentlemen,
Your obedient Servant,
JOHN FYFE.

The Scottish Board of Health call upon every Sanitary Inspector of a Burgh to prepare annually a Report for the year ending 31st December, which Report shall contain :—

(a) A general account of the sanitary state of the Burgh as regards water supply, drainage, scavenging, nuisances, etc., together with any suggestions for its improvement. In populous and closely-built centres where closets on the conservancy system remain, the Report should show the number converted to the water carriage system during recent years, as well as the number of privies, earth closets and privy middens remaining at the end of the year. Attention is particulary directed to the Board's circular of 1st September, 1925 ; and the Board request Sanitary Inspectors again to deal specially with this subject in their Report for the current year, and also to give the additional information therein requested, viz. :—Particulars as to (1) the number of common water closets in use in the Burgh, shewing separately the number serving 2, 3, 4 and 5 or more tenants respectively ; (2) the number of houses without water supply and sink inside the house ; and (3) the number of (a) dry closets ; (b) privy middens ; and (c) ashpits, shewing for each separately the number serving 2, 3, 4 and 5 or more tenants respectively.

(b) An account of his general inspections, and of any special inspections or enquiries, including the supervision of slaughter-houses and other offensive trades, and the sanitary condition of schools and of factories and workshops.

(c) An account of the condition of the common lodging-houses.

(d) An account of the condition of the burial grounds.

(e) An account of his proceedings under the Burgh Police Act.

(f) A report on the work done by the Local Authority under the Sale of Food and Drugs Acts, and orders relating to milk.

(g) (Where the Sanitary Inspector has been appointed to carry out the sanitary inspection of registered cowsheds and exempted premises).

(1) A statement of the conditions found, and of any particular points that are of outstanding interest or that require remedy ;

(2) Particulars of the extent to which (a) the cowsheds comply with the structural and sanitary requirements of the Dairy Bye-laws ; (b) dairymen and their employees conform with the requirements of the Bye-laws relating to methods of milking, handling, and generally the production of clean milk ;

(3) Notes of improvements obtained in the condition of cowsheds and milk stores, including observations regarding any complaints received or dealt with ;

(4) (a) The number of registered cowsheds in the district, and the approximate total number of cows therein ; (b) the number of cowsheds exempted from registration (if available) and the approximate number of cows in such cowsheds, with observations on this class of cowshed ;

(5) A statement of the extent to which Articles 5 to 16 of the Milk and Dairies (Scotland) Order, 1925, are being complied with ;

(6) A comparative statement of the results of inspection of dairies.

Note.—It is desirable that the Local Authority should be aware of the general standard of dairying in their area, and that the inspection should be carried out with the consistent aim of raising the standard of health, cleanliness and care. The Local Authority are aware, from the Board's circulars, of the importance which the Board attach to cleanliness and clean methods, and it is the improvement of these points that the most useful advance can at present be made.

For this purpose the reports to be made could usefully be drawn up in score-card form. The score-card system usually gives a predominance of marks to clean methods, and is to be commended from this point of view. Further, it provides definite grounds on which (if necessary) more care or cleanliness may be required, and the total marks obtained for the various premises will enable the Local Authority to understand the degree of care with which milk is produced in their area.

It may not be possible, of course, for this statement to be drawn up for 1926, and in some areas it may not be possible to prepare it in one year. Eventually, however, it should be possible to summarise the results of score-card inspection of dairies and to ascertain what percentage each dairy in the district attains.

It would be advisable, before a score-card is adopted, that the Medical Officer of Health, the Veterinary Inspector, and the Sanitary Inspector should consult together on the subject.

(h) Observations on food inspection, unsound food, and particulars of the sanitary condition of premises where foods are manufactured, prepared, stored, or exposed for sale.

(i) An account of any proceedings under the Rag Flock Act, 1911.

(j) A statement, in such form as the Scottish Board of Health may from time to time direct, of his proceedings during the year.

Where the Sanitary Inspector has been designated by the Local Authority as the Officer who is to act under Article 1 (3) of the Housing (Inspection of District) Regulations, 1910, the information required in the Form of Report issued with the Board's Circular of 15th December, 1926, shall be sent direct to the Board. The information contained therein should also be included in his Annual Report.

VITAL STATISTICS.

Valuation	£172,206	
Census Population, 1921	21,345	
Estimated Population in relation to Occupied Houses	22,391	
Area of Burgh in Acres	1,543	
Area of No. 1 or Broad Street District	92	Acres.
Area of No. 2 or Cowane Street District	530	„
Area of No. 3 or Port Street District (including St. Ninians)	921	„
Inhabited dwelling-houses at 28/5/27	5,063	
In No. 1 District	1,007	
In No. 2 District	2,005	
In No. 3 District	2,051	
Population No. 1 District	4,063	
Population No. 2 District	9,087	
Population No. 3 District	9,241	
MILEAGE OF STREETS.—		
Macadam Roads	15·25	Miles.
Causeway and Asphalted Streets	5·94	„
Private Streets	1·54	„
Total	22·73	Miles.

METEOROLOGICAL OBSERVATIONS.

The Meteorological Station is situated at Sauchie House, Baker Street, and 151 feet above Ordnance datum. Reports are submitted every month to the Superintendent of the Scottish Meteorological Office, Edinburgh. The instrumental equipment of the Station consists of the following instruments :—

Mercury Barometer—Kew pattern, reading to ·1 millibar or ·002 inch.

Dry Bulb Thermometer.	In Screen.
Wet Bulb Thermometer.	
Maximum Thermometer.	
Minimum Thermometer.	

Rain Gauge—Snowdon pattern.

Solar Radiation Thermometer—Black bulb in vacuo.

Grass Minimum—Terrestrial Radiation.

Earth Thermometers—1 ft. and 4 ft. below the surface of the ground.

Campbell-Stokes Sunshine Recorder, 171 feet above Ordnance datum (Placed at High School).

MONTHLY MEAN METEOROLOGICAL RECORDS OF THE BURGH OF STIRLING.

FROM OBSERVATION STATION at SAUCHIE HOUSE and SUNSHINE RECORDER at HIGH SCHOOL. **FOR THE YEAR 1926.**

Station :—Latitude, 56 degrees—7 minutes N.; Longitude, 3 degrees—56 minutes W.; Height above Mean Sea Level, 151 feet; Sunshine Recorder, 179 feet above M.S.L.

MONTH.	Barometric pressure in inches.	Temperature of atmosphere. Deg. Fahr. in **shade.**				Temperature of atmosphere. Deg. Fahr. in **open.**				Terrestrial radiation or minimum on grass.	Solar radiation (Black bulb).	Temperature 4 feet below the surface of the ground.	Temperature 1 foot below the surface of the ground.	Relative humidity of atmosphere (Saturation point, 100 per cent.).	Rainfall in inches.	Number of rainy days.	Bright sunshine in hours.	Percentage of possible sunshine.	Number of sunless days.	Number of gloomy and foggy days.	Direction of prevailing wind.	Mean wind force expressed in miles per hour.	Cloud amount (Beaufort scale).
		Maximum.	Minimum.	Monthly mean of maximum and minimum.	Range.	Maximum.	Minimum.	Monthly mean of maximum and minimum.	Range.														
January ...	29·67	44	35	39	9	46	34	40	12	33	53	42·6	38·6	89	5·72	22	9·8	4	28	11	W.	2·6	8
February ...	29·70	46	37	41	9	47	32	39	15	34	66	42·1	40·3	91	5·26	20	32·4	12	16	10	W.	2·5	8
March ...	29·96	48	38	43	10	61	40	50	21	34	87	41·4	41·3	80	2·40	16	78·3	21	12	3	W.N.W.	2·7	7
April ...	29·82	54	40	47	14	67	39	53	28	36	99	44·2	46·3	81	1·92	11	102·0	24	10	2	W.	2·5	7
May ...	29·88	56	41	48	15	68	40	54	28	39	111	46·4	50·2	77	2·98	21	152·7	30	2	2	W.N.W.	2·4	6
June ...	29·86	67	47	57	20	77	47	62	30	45	114	50·4	57·2	75	2·54	15	153·3	29	6	1	N.W.	2·7	7
July ...	30·00	69	52	60	17	79	52	65	27	...	116	56·1	63·1	74	4·01	9	162·8	31	3	2	W.	2·0	6
August ...	29·93	67	51	59	16	79	51	65	28	50	115	58·0	62·0	74	3·38	14	178·6	37	1	4	W.	2·1	7
September ...	29·98	62	48	55	14	77	47	62	30	45	107	57·0	57·0	79	3·35	17	144·8	38	...	6	W.	2·4	7
October ...	29·78	50	37	43	13	67	36	51	31	35	83	53·1	46·3	84	4·26	15	108·2	34	7	6	W.N.W.	2·1	6
November ...	29·40	45	35	40	10	52	33	42	19	32	64	43·8	39·4	89	6·65	20	49·5	20	13	9	W.	2·7	7
December ...	30·21	43	35	59	8	52	35	43	17	31	59	43·7	38·3	83	0·95	10	15·2	7	21	8	W.N.W.	2·1	8
Mean for Year 1926	**29.84**	**54**	**41**	**47**	**13**	**64**	**40**	**52**	**24**	**37**	**89**	**48.1**	**48.3**	**81**	**43.42**	**190**	**1187·6**	**22**	**119**	**64**	**W.**	**2.4**	**7**
Mean for Year 1925	29·75	53	40	46	12	65	40	52	25	35	98	48·9	47·4	80	36·46	194	1329·7	28	92	88	W.	2·5	7
,, ,, **1924**	29·71	53	41	47	12	61	40	51	21	37	86	47·9	47·8	84	39·99	266	1083·2	23	142	185	W.	2·1	7
,, ,, **1923**	29·43	53	41	47	12	...	...	...	...	39	91	48·6	48·1	80	37·86	214	1172·2	...	84	162	W.N.W.	3·2	8
,, ,, **1922**	29·73	53	40	46	13	...	...	...	...	37	89	47·8	48·8	81	30·73	181	1278·7	24	82	203	W.	2·7	7

WATER SUPPLY.

The remarks, as fully stated in my Yearly Report of 1925, continue to apply to the water supply in relation to quality and quantity.

The daily average consumpt is approximately 1,500,000 gallons, and the population served is 23,803. The gallons per head per day, including manufactories, is 62.66, while the domestic supply in gallons per head per day is 43·76.

No complaints were received during the year.

SEWAGE AND REFUSE DISPOSAL.

Public health is largely dependent on the efficient removal of liquid and solid waste matters. The cleansing of the streets and roads, and the collection of refuse are of paramount importance in safeguarding the health of the people of any community, and the fullest application of sanitary science is essential in dealing with the problems relating to refuse and sewage disposal. Both subjects were dealt with very fully in my Report for last year.

ATMOSPHERIC POLLUTION.

Deposited Impurity.

Smoke pollution is well-known to be one of the most serious obstacles to the maintenance of the health of the people. Its effect in depriving us of the benefits of direct sunlight are now everywhere admitted to be among the most powerful agents in the spread of disease. Improvement in the air conditions have been accomplished in recent years, but despite this there is a considerable amount of work still to be done. It has been estimated that, broadly speaking, 20 per cent. more sunlight is experienced in the country than in a smoky town. In addition to the close relation between the death-rate and the atmospheric condition due to smoke, we have damage to vegetation and buildings, and from an economic point of view the loss due to coal smoke is very considerable. It has been estimated that in a smoky town, with a population of three quarters of a million, there is a yearly loss of over £290,000, but it is clearly impossible to express in terms of money the damage to health and mental and physical efficiency.

In industrial areas domestic chimneys contribute at least 50 per cent. of the total smoke nuisance, and that at least 6% of the bituminous coal ordinarily burned in domestic fireplaces escapes unconsumed into the atmosphere as soot. Taking 40½ million tons as the amount of coal burned annually in the United Kingdom in its natural condition for domestic purposes, the loss amounts to 2,430,000 tons. That is to say, 2½ million tons of soot escapes into and pollutes the atmosphere every year from domestic fireplaces alone. Domestic smoke contains a considerably higher percentage of carbon and tar than factory soot, and, by reason of its large proportion of tar, it adheres to every object upon which it falls, and is therefore more obnoxious and destructive than soot emitted from factories.

The possible methods which might be employed to minimise the production of smoke in dwelling houses are as follows :—Anthracite coal; low temperature fuel and ordinary gas-coke, but, undoubtedly, the best methods are by the more liberal use of gas and electricity.

The following table denotes the amount and character of the impurities deposited during 3 summer and 3 winter months of 1926. Owing to the upheaval in the mining industry during last year, it is rather difficult to express or make any comparison relating to the figures for the different months.

TABLE SHOWING THE SEASONAL MONTHLY DEPOSIT EXPRESSED AS CWTS. PER ACRE OVER THE BURGH AREA.

WINTER MONTHS

1926.

Month.	Insoluble Matter.			Soluble Matter.		Total Solids.	Included in Soluble Matter.		
	Tar.	Carbonaceous other than Tar (soot).	Ash.	Loss on Ignition.	Ash.		Sulphates.	Chlorine.	Ammonia.
January, ...	0·023	0·179	0·374	0·231	0·311	1·118	0·140	0·083	0·007
March, ...	0·008	0·125	0·246	0·093	0·216	0·688	0·082	0·051	0·002
November, ...	0·005	0·150	0·297	0·220	0·513	1·185	0·227	0·081	0·002
					Grand Total	**2·991**			

SUMMER MONTHS

Month.	Insoluble Matter.			Soluble Matter.		Total Solids.	Included in Soluble Matter.		
	Tar.	Carbonaceous other than Tar (soot).	Ash.	Loss on Ignition.	Ash.		Sulphates.	Chlorine.	Ammonia.
May,...	0·014	0·154	0·254	0·087	0·197	0·706	0·060	0·043	0·005
July,...	0·003	0·110	0·200	0·090	0·180	0·583	0·076	0·014	0·002
September, ...	0·005	0·150	0·340	0·090	0·200	0·785	0·056	0·031	0·002
					Grand Total	**2·074**			

For the sake of comparing Stirling with other centres where gauges have been set up it is interesting to note from the appended table the amount of the various polluting agencies which are deposited in Stirling, Glasgow, Edinburgh, London, Southport and Newcastle on-Tyne.

TABLE SHOWING COMPARISON OF MONTHLY DEPOSIT OF SIX STATIONS FOR

WINTER MONTHS

1926.

Station	No. of Gauges.	JANUARY.				MARCH.				NOVEMBER.				**3 Winter Months.**	
				Total Solids				Total Solids				Total Solids		**Grand Totals.**	
		Total Insoluble Matter.	Total Soluble Matter.	Metric Tons per square Kilometre.	Cwts. per Acre.	Total Insoluble Matter.	Total Soluble Matter.	Metric Tons per square Kilometre.	Cwts. per Acre.	Total Insoluble Matter.	Total Soluble Matter.	Metric Tons per square Kilometre.	Cwts. per Acre.	Metric Tons per Square Kilometre.	Cwts. per Acre.
Stirling	**1**	**7·16**	**6·73**	**13·89**	**1·12**	**4·71**	**3·83**	**8·54**	**0·69**	**5·55**	**9·11**	**14·66**	**1·18**	**37·09**	**2·99**
Glasgow	9	4·14	5·11	9·25	0·74	4·48	3·95	8·43	0·68	6·83	9·01	15·84	1·28	33·52	2·70
Edinburgh	3	1·91	2·45	4·36	0·35	3·52	3·26	6·78	0·55	5·07	4·97	10·04	0·81	21·18	1·71
London (City)	1	8·43	7·39	15·82	1·27	9·32	2·81	12·13	0·98	12·61	16·15	28·76	2·32	56·71	4·57
Southport	2	2·01	2·24	4·25	0·34	1·17	2·44	3·61	0·29	3·15	5·35	8·50	0·68	16·36	1·31
Newcastle-on-Tyne	3	10·35	7·65	18·00	1·45	16·52	6·24	22·76	1·82	19·56	7·65	27·21	2·19	67·97	5·46

SUMMER MONTHS

Station.	No. of Gauges.	MAY.				JULY.				SEPTEMBER.				**3 Summer Months.**	
				Total Solids				Total Solids				Total Solids		**Grand Totals.**	
		Total Insoluble Matter.	Total Soluble Matter.	Metric Tons per square Kilometre.	Cwts. per Acre.	Total Insoluble Matter.	Total Soluble Matter.	Metric Tons per square Kilometre.	Cwts. per Acre.	Total Insoluble Matter.	Total Soluble Matter.	Metric Tons per square Kilometre.	Cwts. per Acre.	Metric Tons per Square Kilometre.	Cwts. per Acre.
Stirling	**1**	**5·24**	**3·53**	**8·77**	**0·71**	**3·96**	**3·37**	**7·33**	**0·58**	**6·16**	**3·66**	**9·82**	**0·79**	**25·92**	**2 08**
Glasgow	9	4·88	3·84	8·72	0·70	7·76	3·98	11·74	0·94	4·11	3·68	7·79	0·63	28·16	2·27
Edinburgh	3	5·03	2·63	7·66	0·62	5·90	1·97	7·87	0·63	4·19	2·64	6·83	0·55	22·36	1·80
London (City)	1	7·32	5·16	12·48	1·00	7·46	4·99	12·45	1·00	4·35	4·45	8·80	0·71	33·73	2·71
Southport	2	1·83	1·68	3·51	0·28	1·33	1·51	2·84	0·23	1·49	2·48	3·97	0·32	10·32	0·83
Newcastle-on-Tyne	3	8·87	7·15	16·02	1·29	6·44	5·53	11·97	0·96	12·30	4·91	17·21	1·39	45·20	3·55

In Stirling the standard guage is set up to the rear of the Municipal Buildings, and in the centre of the town, therefore, the deposited impurity can be safely estimated as a maximum.

In Glasgow the gauges are mostly erected in public parks, and tend to indicate a minimum deposit, and so far as the results in Edinburgh (Auld Reekie) are concerned, I am at a loss to understand how the monthly deposited impurity is less than that of Stirling.

Suspended Impurity.

During the months of January, March, May, July, September and November, tests were carried out daily by means of Dr. Owen's portable Air Filter. The results are calculated as the average reading for each month.

	Month.	Shade Number.	Suspended matter in lbs. per Million cubic yards.
	January ...	2·05	1·107
Three Winter Months—	March, ...	0·85	0·460
	November ...	1·83	0·988
		Total,	**2·555**
	May	0·82	0·443
Three Summer Months—	July	0·25	0·135
	September ...	0·26	0·141
		Total,	**0·719**

It has been recognised for some time that the suspended impurity was in some sense a complement of the deposited impurity, and if the suspended matter always deposited at exactly the same rate we should expect a regular relation between the suspended and deposited matter. Near the source of the impurity this relation might not have time to develop, and both deposited and suspended matter might vary together, and probably would do so with the quantity poured into the air. As we move away from the source and, still assuming an invariable rate of deposit, we should expect the ratio of deposit to suspended matter gradually to increase at the expense of the latter, until a sufficiently great distance away all the suspended matter would have deposited.

If we imagine the source of impurity to be cut off, then we should expect an inverse relation to hold between the deposited and suspended matter. The relation is, however, complicated by the fact that the quantity of impurity added to the air varies from time to time, while the variations in the wind and rainfall will affect the rate of deposit.

1926.	**Total Solids.** Metric Tons per square Kilometre.	Suspended Matter Shade Number.	Ratio.
January, ...	13·89	2·05	6·8
March, ...	8·54	0·85	10·1
November	14·66	1·83	8·0
May	8·77	0·82	10·7
July	7·33	0·25	29·3
September	9·82	0·26	37·8

The attached table shows the total deposit and the average suspended impurity for the three winter and the three summer months, while the third column gives the ratio of these two figures.

It will be seen that the variation in this ratio is very much greater for the summer than the winter months—average summer ratio, 26 ; average winter ratio, 8. There is no reason to expect this ratio to be constant, as it would be governed as aforementioned, very much by the wind velocity and rainfall.

Draft List of Subjects upon which Researches are desirable for the further Investigation of Atmospheric Pollution prepared by the Technical Sub-Committee as a suggestion to the Department of Scientific and Industrial Research.

A. Researches in which the Co-operating Authorities can take part.

1. The Standard Gauges. Further inquiry by means of the "standard gauge" and the "stoneware gauge," examination of defects (if any) in the instruments or the methods of analysis, and discussion of notable discrepancies in the results of the several localities.

II. The Automatic Filter. Installation of automatic recorders in localities where standard gauges or stoneware gauges are maintained in order to obtain a working value for the relation between the results of the different instruments with the object of setting up a satisfactory standard of "clean air" for large cities.

III. The Dust Counter. With the same object, namely the setting up of a satisfactory standard of clean air, the shades of the automatic filter should be correlated with the number of dust particles counted in samples from time to time and regular records of the number of particles in fogs should be kept.

It is thought that in this also, local scientific societies might be interested.

B. Researches to be conducted mainly by the Central Establishment.

I. The development and improvement of instruments already in operation.

1. Recalibration of the automatic filter and method of recovering the unit shade.

Other incidental researches in relation to those enumerated in A.

II. Continuance of researches with the standard instrument of the Committee.

1. Systematic dust counts to be made for comparison with automatic recorder results.
2. Dust counts made in foreign countries.
3. Formation of "aggregates" in records from dust counter, causes, significance.

III. Resumption of researches interrupted by the death of an assistant and other circumstances.

1. A method of measuring sulphur in the air (which is capable of use by an unskilled observer) such as the white-washed wire gauze method already considered, to be tried out and put in its simplest form.
2. Experiments on visibility :—
   (a) Obstruction of light by smoke fog.
   (b) Obstruction of light by water fog.
   (c) Selective obstruction of light by fog.
   (d) Correct lumeter and cube method for colour of light.
3. Develop vapour pressure hydrometer or other method of measuring water in fog.
4. Examination of London fogs.
   (a) Dust counter observations.
   (b) Collection of sufficient solid impurity for analysis.
   (c) Estimation of tar and relation of domestic to factory smoke during fog.
   (d) Spectrographic analysis of suspended matter.
   (e) Micro-chemical analysis of suspended matter.
   (f) Compare quantity of CO_2, SO_2, SO_3, and CO during fog with clear weather.
5. Examination of the acidity of the air.

IV. Further prosecution of other researches.

1. Develop crystallographic and micro-chemical analysis of atmospheric dust.

2. Formation of a body of statistics of lighting supply in relation to the incidence of fog.
3. Effect of hygroscopic salts in the air on condensation.
4. Use of small balloons for examining distribution of smoke.

V. Applications of the standard methods of measuring atmospheric pollution.

1. The chemical and physical processes involved in the formation of smoke, size of initial particles, flocculation.
2. The life history of smoke after emission from chimney :—
    - (a) Observation of the horizontal spread of impurity from a source as affected by the wind.
    - (b) Observations of the vertical distribution of dust and smoke.
    - (c) Experiments and observations on the effect of wind velocity on the concentration of suspended matter.
    - (d) Selective deposit in relation to distance from source (see sulphate deposit), size and nature.
    - (e) The effect of rain and snow in bringing down impurity; is there selective action on the soluble parts ?
3. With reference to the theory of "zoning" in town planning, get experimental data to clear up best position for factories.

VI. New methods and new instruments.

1. A continuous method of recording ultra-violet radiation sufficiently sensitive to record the radiation from a clouded sky.
2. Application of searchlights to examination of the range and intensity of atmospheric impurities.
3. Examination of the methods of measuring daylight as distinct from sunshine.

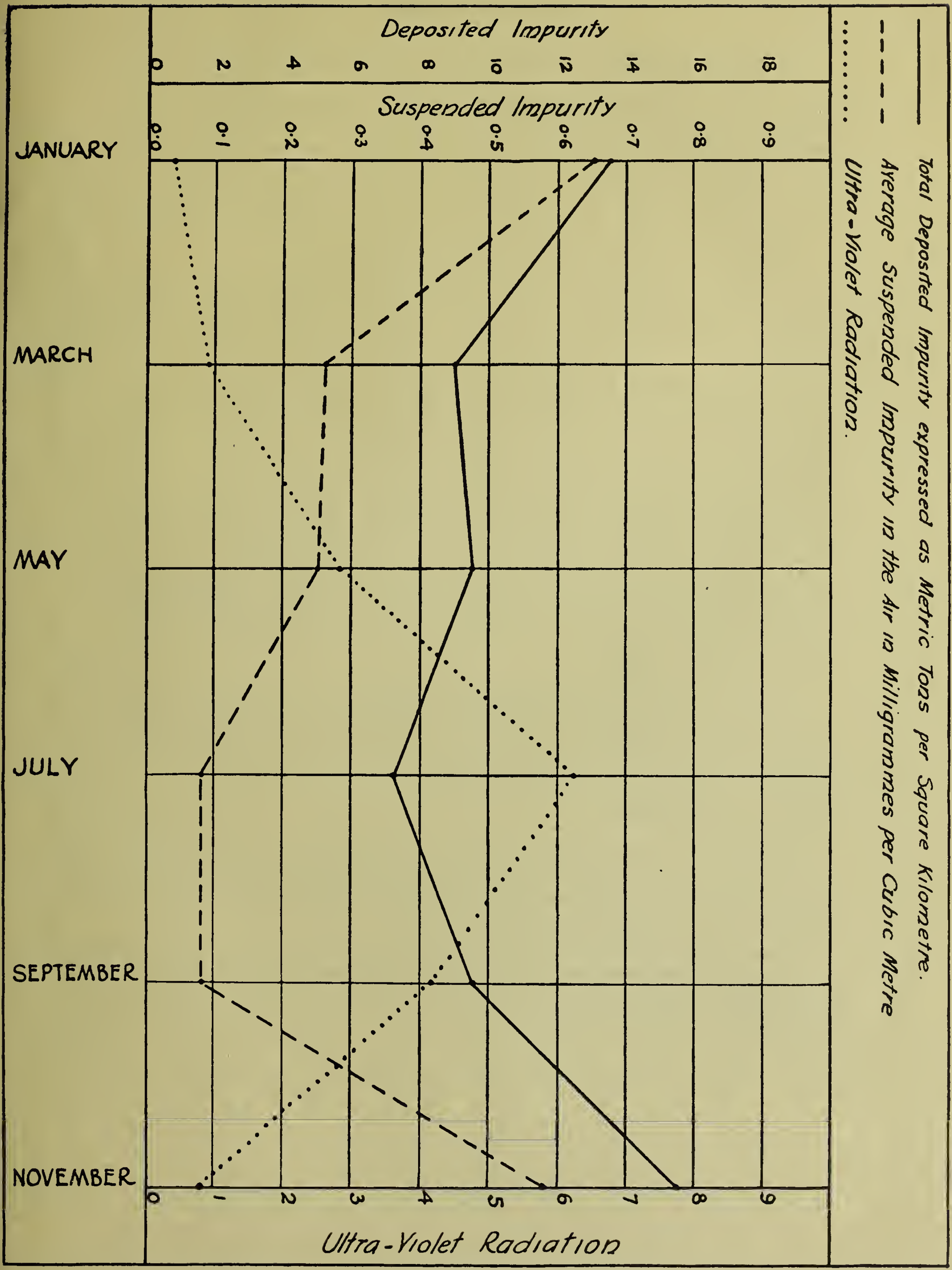
The Advisory Committee on Atmospheric Pollution have suggested the following standard for Clean Air :—

Clean Air Standards.

	Monthly Deposit in metric tons per square kilometre.	Suspended matter ; milligrammes per cubic metre.	Dust particles per cubic centimetre.	Ultra Violet per cent. of country.
City	10	under 0·3	1500 to 2000	80
Country	2	...	300	100
Suburban	3	...	900	90

I append a chart showing the amount of suspended impurity, deposited impurity, and ultra-violet radiation during the months of January, March, May, July, September and November, or, three winter compared with threc summer months.

It clearly shows that when we have a low deposit of suspended and deposited impurities we have a greater amount of ultra-violet radiation, which proves conclusively that the atmospheric pollution is the chief cause of preventing the ultra-violets from reaching us.


Deposited Impurity
0
2
4
6
8
10
12
14
16
18
Suspended Impurity
0·0
0·1
0·2
0·3
0·4
0·5
0·6
0·7
0·8
0·9
JANUARY
MARCH
MAY
JULY
SEPTEMBER
NOVEMBER
0
1
2
3
4
5
6
7
8
9
Ultra-Violet Radiation
Total Deposited Impurity expressed as Metric Tons per Square Kilometre.
Average Suspended Impurity in the Air in Milligrammes per Cubic Metre
Ultra-Violet Radiation.

ULTRA-VIOLET RAYS.

The health-giving properties of sunlight are, for the most part, due to the ultra-violet rays, which are found at their maximum at high altitudes where approximately three-quarters of the sun's energy is available. At sea level the proportion becomes reduced to about one-half, and in the smoky atmosphere of a large city to a quarter or less. Passage through ordinary glass almost completely arrests the ultra-violets. The maximum advantage is obtained from sunlight when the warmth of the sun's rays is associated with a breeze. The movement of the air leads to evaporation and a consequent cooling of the surface, circulation of blood and lymph and the processes of metabolism being increased.

For some years records have been taken of bright sunshine.

In October, 1925, I commenced to take readings of the amount of maximum ultra-violets reaching us from the sun by means of Professor Leonard Hill's Acetone Methylene Blue Gauge. The object of this was to determine to what extent ultra-violets were reaching Stirling.

Generally speaking, it has been found that during the winter months of November, December, January, February, and March, the amount of ultra-violets which reach the ground level in Stirling are of very insignificant proportions. A tabular statement is appended, which shows that, whereas in February and March the total hours of sunshine were 32 and 78 respectively, there was less than half a degree per diem of ultra-violets in the whole of the former month, and short of 1 degree per diem during the whole of the latter month. As we progress towards the late spring and summer, it is found that the amount of ultra-violets rises very considerably, and in July a daily average of over 6 degrees was recorded. From this point onwards the amount of ultra-violets again begins to fall off, and in November and December very small readings were obtained. In addition to the summary averages above referred to during the winter months, many days showed no recordable ultra-violet readings. In other words, during these days practically no ultra-violets were reaching Stirling.

One of the features of the ultra-violets is the readiness with which they are obstructed by particulate particles in the form of dust, soot, vapour, such as we commonly experience in our climate, and ordinary glass. Owing to the low altitude of the sun during winter, a great many of the ultra-violets are obstructed because of the thickness of the layer of the atmosphere which the sun's rays have to penetrate.

Importance of Ultra-Violets.

Experimentally, it has been shown that the ultra-violets are of very great importance in preserving the normal health. It is thought that their effect is due to some change which they produce in the colostral substances of the skin having an important bearing on the calcium and phosphorus metabolism of the body.

It must be clearly kept in mind, of course, that over-dosage from ultra-violets may be harmful, and especially this may happen should the individual be exposed to the direct heat of the sun. In fact, probably the best effects are produced when we have cool moving air conditions.

1926. TABULAR STATEMENT CONCERNING ULTRA-VIOLET RAYS FOR STIRLING.

Month.	Average Degree of fading of Acetone Methylene Blue Gauge.	Highest Degree of fading in one day.	Solar Radiation (Black Bulb in Vacuo) °Fahr.	Percentage of Bright Sunshine.	Days without Ultra-Violet Rays.	Days without Sunshine.
January, ...	0·23	1·5	53	4	21	28
February, ...	0·38	2·0	67	12	16	16
March,...	0·95	3·0	87	21	8	12
April, ...	1·22	4·0	99	24	6	10
May, ...	2·97	7·5	111	30	1	2
June, ...	4·15	9·5	114	29	4	6
July, ...	6·27	13·0	116	31	1	3
August, ...	5·37	9·5	115	37	1	1
September, ...	4·10	9·0	107	38	0	0
October, ...	2·10	5·5	83	34	8	7
November, ...	0·75	2·5	64	20	14	13
December, ...	0·27	1·5	59	7	20	21

One degree of fading on the scale is equivalent to 2 to 4 times the ultra-violet radiation necessary to produce erythema of white skin.

At the end of 1926 Professor Leonard Hill reported on the amount of ultra-violets recorded at 9 Centres in England, 1 in Scotland, and from Guernsey, Channel Islands, Davos, Switzerland, and Assouan, Egypt.

To show clearly how we compare in Stirling with some of the other Centres, the following table has been compiled.

ULTRA-VIOLET RAYS

1926. HIGHEST DEGREE OF FADING OF ACETONE METHYLENE BLUE GAUGE, IN EACH MONTH.

Month.	**Stirling.**	Hampstead London, N.W.	Peppard, Oxfordshire.	Bexhill-on-Sea, Sussex.	Guernsey, Channel Islands.	Davos, Switzerland.	Ventnor, Isle of Wight.	Lowestoft, Suffolk.	Assouan, Egypt.
January,	**1.5**	1·0	1·5	3·0	4·0	3·25	...	...	...
February,	**2.0**	1·5	3·0	4·0	4·0	3·0	...	...	...
March,	**3.0**	5·5	6·25	5·0	...	9·0	...	...	...
April, ...	**4.0**	6·0	6·5	5·0	4·0	12·5	...	4·0	...
May, ...	**7.5**	8·0	10·0	7·0	9·0	10·0	...	10·0	...
June, ...	**9.5**	10·0	13·0	8·0	12·0	13·0	...	11·0	...
July, ...	**13.0**	10·0	10·5	11·0	12·0	17·0	...	12·0	...
August,	**9.5**	9·0	...	10·0	...	17·0	14·0	...	...
September,	**9.0**	8·9	6·0	10·0	...	13·5	13·0	12·0	...
October,	**5.5**	2·5	4·5	4·0	5·0	6·5	8·0	10·0	...
November,	**2.5**	1·0	2·5	3·5	3·0	5·5	6·0	8·0	...
December,	**1.5**	1·5	1·5	4·0	2·0	4·0	7·0	4·5	20

KATA THERMOMETER AND OTHER TESTS IN THE VENTILATION OF SCHOOLS.

As decided upon last year, I have now completed the examinations and testings in all the class-rooms of the various schools in the Burgh, and the results obtained are plotted in the accompanying Graph.

Along with the kata tests, investigations were also carried out for carbon-dioxide or CO_2 estimation, and the relative number of organisms present in the worst class-rooms in each school. The estimation of CO_2 was carried out by Pettenkofer's method, and the number of organisms present was obtained by the exposure of neutral-red agar in Petri dishes—to the air of the class-rooms for fifteen minutes.

	Carbon-dioxide (CO_2) content. Parts per 10,000 by volume of air.	Respiratory Impurity of CO_2 per 10,000 by volume of air.	Number of **Micro-organisms** present per cubic foot of air.
Territorial School—			
Outside Air	3·7	Nil.	15
Classroom No. 1	16·2	12·5	94
Classroom No. 2	14·9	11·2	85
Classroom No. 6	19·2	15·5	101
Classroom No. 9	11·2	7·5	193
St. Ninians School—			
Classroom No. 2	18·1	14·4	72
Classroom No. 6	9·2	5·5	103
Classroom No. 9	7·9	4·2	44
St. Mary's R.C. School—			
Classroom No. 5	19·7	16·0	110
Classroom No. 11	22·3	18·6	155
Episcopal School—			
Outside Air	3·4	Nil.	29
Classroom C	8·8	5·4	98
Classroom D	15·0	11·6	218
Classroom F	8·5	5·1	100
Craigs School—			
Classroom No. 5	7·5	4·1	143
Classroom No. 6	6·5	3·1	108
Classroom No. 7	4·3	0·9	77
Classroom No. 11	5·1	1·7	86
Allan's School—			
Outside Air	3·9	Nil.	32
Classroom No. 7	12·4	8·5	164
Classroom No. 13	18·6	14·7	104
Classroom No. 16	14·3	10·4	91
High School—			
Outside Air	4·0	Nil.	10
Classroom No. 19	14·8	10·8	23
Classroom No. 20	6·1	2·1	31
Classroom No. 21	12·7	8·7	23
Primary High School—			
Classroom No. 2	19·1	15·1	77
Classroom No. 7	7·0	3·0	35
Classroom No. 35	10·6	6·6	19

DRY AND WET KATA READINGS IN THE SEPARATE CLASSROOMS OF THE VARIOUS SCHOOLS IN THE BURGH

Carbon-dioxide (CO_2) Estimation.

The more recent view is that the chemical composition of occupied classrooms is adequate for all the needs of respiration and that ill-effects are not dependent upon the balance of oxygen and carbon-dioxide present. At the same time the amount of CO_2 present in the air of any occupied room is a clear index that the ventilation is deficient, in so far, that there is no free movement of the air between the inlets and the outlets. It is now well founded that moving air with a proper temparature and humidity is preferred.

Organisms.

The air of occupied rooms is known to contain bacteria, the number of which vary according to the degree of cleanliness and the amount of ventilation. All organisms are not pathogenic, and the estimation of the number present at any time is no certain indication of danger arising from infection. The number of organisms falling per unit of area varies greatly in the various classrooms, this being caused by the movements of the children. If the scholars were carrying out some form of physical drill the organisms would be considerably increased and vice-versa.

The graph clearly indicates where defective ventilation and air movement exists. I would certainly say that the defects are in some of the classrooms very slight, and in many cases it is impossible to render the ventilation and air movement more adequate.

Professor Leonard Hill prefers in schools that the dry reading should be over 7 and the wet over 20, because children, having a greater metabolism per unit of body surface than adults, need an atmosphere with not less, but a greater cooling power.

I wish only to deal with Hill's minimum for dry kata as 6 and his minimum for wet as 18, and the deficiences in the various schools are as follows :—

Territorial School—
Wet Kata—In 3 classrooms the reading was below 18.

Craigs School—
Wet Kata—In 6 classrooms the reading was below 18.

Episcopal School—
Wet Kata.—In 6 classrooms the reading was below 18.

St. Mary's R.C. School—
Dry Kata.—In 1 classroom the reading was below 6.
Wet Kata.—In 8 classrooms the reading was below 18.

Allan's School—
Wet Kata.—In 4 classrooms the reading was below 18.

St. Ninians School—
Wet Kata.—In 3 classrooms the reading was below 18.

High School—
Dry Kata.—In 5 classrooms the reading was below 6.
Wet Kata.—In 15 classrooms the reading was below 18.

Primary High School—
Wet Kata.—In 4 classrooms the reading was below 18.

The total number of classrooms distributed amongst the 8 schools is 107. Of that 107, 6 classrooms, or 6%, were below Hill's minimum of 6 for dry kata reading, while 46 classrooms, or 43%, were below Hill's minimum for wet kata reading. The reason of the low reading of the wet kata is no doubt caused to a great extent by the rather high temperature in addition to a high humidity, and especially where there is a lack of proper air movement.

It is my intention to again carry out tests in all the classrooms where the wet kata readings were below Hill's minimum, namely, 18 ; and it may be possible without much trouble to cause an air movement in the various classrooms so that the wet kata readings may be in accordance with Hill's maximum, namely, 20.

SPECIAL INSPECTIONS AND REPORTS.

Report on the Provision of Water Closets and Sinks in Existing Properties.

To the Members of the
Public Health Committee.

Ladies and Gentlemen,

As instructed, I have pleasure in submitting the desired report for your consideration.

On 1st September, 1925, a circular was received from the Scottish Board of Health, in which they requested that Sanitary Inspectors should, in their Annual Report, give information so far as available regarding :—

(1) The number of common water closets in use, showing separately the number serving 2, 3, 4 and 5 or more tenants, respectively ;

(2) The number of houses without water supply and sink inside the house ; and

(3) The number of (a) dry closets, (b) privy middens, and (c) ashpits, showing for each separately, the number serving 2, 3, 4, and 5 or more tenants, respectively.

In the circular referred to, the Board urged all Local Authorities who had not already done so, to review the conditions of their areas in regard to the aforementioned matters as soon as possible, with the view of making fuller use of their powers to require the introduction, wherever practicable, of water and water closets into those houses which are, at present, without these.

(1) Water Closets.

At the present time it is the usual custom that a water closet be fitted up in each separate house, and rightly so. About 10 to 15 years ago it was a general rule that one water closet for 2 tenants was ample and sufficient. Going back still further in the conversion of the conservancy to the water-carriage system in the older properties, one water closet was introduced for the whole property, either in the property itself or in the court yard adjacent. In property of this type there should, in my opinion, not be more than 4 tenants using one water closet. Of course, this wholly depends on the number of persons occupying each house.

The Burgh Police (Scotland) Act, 1892, Section 246, enables Local Authorities to require the owners of every house, or part of a house, occupied by a separate family to provide water closets and sinks. The Section is in the following terms :—

Section 246 :—

" Within one month after notice given by the Town Council in writing for that purpose, the owner of every house, or part of a house, occupied by a separate family, into which water has not been already introduced, shall, subject to the provisions of any bye-laws made by the Town Council, introduce water thereto, and shall fit up in some window, recess, or other well-lighted and ventilated place, a sink sufficient to carry off the whole foul water ; and after a like notice, every such owner shall also, subject as aforesaid, provide for such house or part of a house occupied by a separate family, wherever practicable, a sufficient water closet : Provided always that if, in the opinion of the Town Council, it is not advisable to introduce water closets into each house, or part of a house, they, after a like notice, may, subject as aforesaid, require the owners of a tenement to construct on each flat, or in some convenient place or places adjacent to such tenement, a sufficient number of water closets for the separate use of each sex of the inmates and occupiers of the said tenements : Provided further, that this enactment shall not be enforced by the Town Council where, from water not having been laid under sufficient pressure, or from drains being still unmade, or from any other cause, such works shall be impracticable or inexpedient and in such case the Council may, subject to the aforesaid conditions, require a sufficient earth closet to be provided ! "

In this report I only intend to bring before your notice properties which have more than 4 tenants using one water closet.

No. 1 or Broad Street District.

BROAD STREET—
- 1 property with 7 tenants to 1 water closet.
- 1 property with 5 tenants to 1 water closet.

BAKER STREET—
- 4 properties with 6 tenants to 1 water closet.
- 2 properties with 5 tenants to 1 water closet.

SPITTAL STREET
- 2 properties with 6 tenants to 1 water closet.

ST. JOHN STREET—
- 1 property with 8 tenants to 1 water closet.
- 3 properties with 6 tenants to 1 water closet.
- 1 property with 5 tenants to 1 water closet.

BOW STREET—
- 1 property with 7 tenants to 1 water closet.
- 1 property with 6 tenants to 1 water closet.
- 1 property with 5 tenants to 1 water closet.

ST. MARY'S WYND—
- 7 properties with 6 tenants to 1 water closet.
- 1 property with 5 tenants to 1 water closet.

UPPER CASTLEHILL—
- 2 properties with 8 tenants to 1 water closet.
- 2 properties with 5 tenants to 1 water closet.

No. 2 or Cowane Street District.

COWANE STREET—
- 3 properties with 8 tenants to 1 water closet.
- 4 properties with 6 tenants to 1 water closet.
- 4 properties with 5 tenants to 1 water closet.

GLENCOE ROAD—
- 1 property with 8 tenants to 1 water closet.

BAYNE STREET—
- 3 properties with 6 tenants to 1 water closet.

DOUGLAS STREET—
- 1 property with 6 tenants to 1 water closet.
- 1 property with 5 tenants to 1 water closet.

LOWER BRIDGE STREET—
- 2 properties with 6 tenants to 1 water closet.
- 7 properties with 5 tenants to 1 water closet.

UPPER BRIDGE STREET—
- 1 property with 6 tenants to 1 water closet.

ORCHARD PLACE—
- 2 properties with 8 tenants to 1 water closet.
- 1 property with 6 tenants to 1 water closet.

RAPLOCH—
- 4 properties with 6 tenants to 1 water closet.

BALLENGEICH COTTAGES—
- 1 property with 8 tenants to 1 water closet.

DRIP ROAD—
- 1 property with 8 tenants to 1 water closet.

No. 3 or Port Street District.

UPPER CRAIGS—
1 property with 6 tenants to 1 water closet.
3 properties with 5 tenants to 1 water closet.

LOWER CRAIGS—
4 properties with 5 tenants to 1 water closet.

MAIN STREET—
1 property with 9 tenants to 1 water closet.
4 properties with 6 tenants to 1 water closet.
2 properties with 5 tenants to 1 water closet.

BANNOCKBURN ROAD—
1 property with 6 tenants to 1 water closet.
2 properties with 5 tenants to 1 water closet.

GLASGOW ROAD—
3 properties with 5 tenants to 1 water closet.

SUNNYSIDE—
2 properties with 6 tenants to 1 water closet.

BORESTONE PLACE—
1 property with 8 tenants to 1 water closet.

(2) Water Supply.

No separate house should be without a sink with water led in. Unfortunately, in Stirling, we still have houses in old property without this most beneficial auxiliary to Public Health. There is a fairly large proportion of houses in the Burgh where the water supply is obtained either from sinks on the stair landing or from water taps immediately adjacent to the property. There are 86 properties where the water supply has not been provided in 480 houses, and the following statement indicates the position in the Burgh :—

1 sink used in common by 2 tenants in 16 properties with 75 separate houses.
1 sink used in common by 3 tenants in 21 properties with 157 separate houses.
1 sink used in common by 4 tenants in 10 properties with 56 separate houses.
1 sink used in common by 5 tenants in 8 properties with 87 separate houses.
1 sink used in common by 6 tenants in 1 property with 6 separate houses.
1 sink used in common by 8 tenants in 1 property with 8 separate houses.

In 27 properties consisting of 89 separate dwellings, the tenants draw the supply of water from outside wells or water taps, and in 2 properties 2 tenants draw the supply from the washhouse.

(3) Dry Closets.

There are only 3 dry closets in the Burgh.

It might not be advisable to deal with all the properties where the inadequacy of water closet accommodation and water supply is prevalent. Such a policy might create difficulties in the subsequent closure of the houses, but, in my opinion, the worst cases should be dealt with.

I enclose for your consideration a copy of Bye-laws in terms of the Housing (Scotland) Act, 1925, Section 59, and in particular (e). Regarding (c) and (d) in so far as they relate to existing houses, standards have already been fixed by the Burgh Police (Scotland) Act, 1903. These Bye-laws were brought before your notice by the Town Clerk at our last meeting, and the opinion then was that the suggested Bye-laws were perhaps rather drastic.

It is quite possible to curtail the Bye-laws by only adopting Bye-laws Nos. 2, 3, 7 and 10 relating to water closets and bath accommodation ; scullery accommodation ; washing accommodation and drying facilities, both for houses still to be erected and also for existing houses.

About two years ago the provision of wash-houses in existing properties was prominently before this Committee, but, for the very reason that we had no powers to cause owners to carry out such improvements, the matter was allowed to drop. We have now got powers under the Housing (Scotland) Act, 1925.

In the Burgh Police (Scotland) Act, 1892, we have powers to prevail on owners as to the necessity of erecting sufficient water closet accommodation, and to provide sinks with water led in.

It is for the Committee to consider the whole question as to whether or not it would be advisable to draft up the Bye-laws proposed, or to deal only with water closets and sinks in terms of the Burgh Police (Scotland) Act, 1892, Section 246.

I am,

Ladies and Gentlemen,

Your obedient Servant,

JOHN FYFE.

Heating—Combination Hospital, Kildean.

In the month of October I was requested by the Clerk to the Combination Hospital, Kildean, to report on the heating system of the Hospital, especially on the heat losses from the uncovered pipes in the underground ducts.

The length and area of the piping is as follows :—

	Area of exposed surfaces in square feet.
217 feet of 3½" piping, ...	198·8
117 feet of 2" piping, ...	61·2
126 feet of 1¼" piping, ...	41·2
Total Area, ...	301·2

The exposed surfaces of the main pipes of the steam-heating installation amounts to 301·2 square feet. The steam pressure maintained is 60 lbs. per square inch (307°Fahr.)

The heat emitted from the unprotected surfaces is taken as 2 British Thermal Units per degree difference of temperature per square foot of surface per hour. The average air temperature to which the surfaces are exposed is 60° Fahr.

The total heat lost in a week will equal—

$$301{\cdot}2 \times 2 \times (307-60) \times 168 = \text{B.T.U.s.}$$

$$\text{i.e.}\ \ 17{,}587{,}190\ \text{B.T.U.s.}$$

Taking fuel with a calorific value of 12,000 B.T.U.s. per lb., and the average efficiency of the boiler at 50 per cent., the fuel consumed to supply the heat lost by the surfaces

$$= \frac{17{,}587{,}190}{6{,}000} = 2931\ \text{lbs. or 1 ton 6 cwts. 18 lbs.}$$

If the exposed surfaces were protected with a good non-conducting material which has 80 per cent. efficiency, the fuel consumption for heat losses would only be :—

$$\frac{2931 \times 20}{100} = 586\ \text{lbs. or 5 cwts. 8 lbs.}$$

Thus, if the surfaces are properly protected, a saving of almost **1 ton 1 cwt. 10 lbs.** of fuel is affected **in a week,** or during a period of say **24 weeks** a saving of **25 tons 6 cwts 16 lbs.**

This report was submitted to the Committee, who agreed to cover the whole piping with sectional asbestos wrapped in canvas and encircled with steel bands, and I may report that during the past six months a considerable saving in coal has been effected.

ARSENIC IN APPLES.

To the Members of the
Public Health Committee.

Ladies and Gentlemen,

With reference to recent complaints made about arsenic in apples to the Public Health Department, some of the fruiterers were visited, and purchases made of certain varieties of apples, and the same were submitted for analysis by the Public Analysts, (Messrs. R. R. Tatlock and Thomson, Glasgow), with the following results :—

Delicious, Hood River, Oregon, U.S.A.
No trace of arsenic found.

Wine Sap, Oregon, U.S.A.
No trace of arsenic found.

Newton Pippin, Hood River, Oregon, U.S.A.
This sample contained arsenic to the extent of 0·001 of a grain per lb.

Macintosh Red, Salmon Arm, Farmer's Union, British Columbia, Canada.
This sample contained arsenic to the extent of 0·002 of a grain per lb.

The usual medicinal dose varies from 0·06 to 0·24 of a grain of Arsenious Anhydride per day, while 0·75 of a grain is considered to be dangerous.

The smallest quantity known to cause death is 2·5 grains.

Therefore, arsenic being found to be present to the extent of 0·002 of a grain per lb., it follows that an individual would require to consume 30 lbs. of apples per day and eat every particle, including skins, ends and cores, before having taken even the minimum medicinal dose.

(Signed) ARCHD. PENMAN, M.B., D.P.H.
(Signed) JOHN FYFE.

SMOKE TESTING OF DRAINAGE AND THE INSPECTION OF SANITARY FITTINGS OF NEW BUILDINGS.

During the year the drainage and sanitary fittings were carefully examined, and the smoke test applied on 108 different occasions at the following new buildings :—

Lower Castlehill Housing Scheme.
Bannockburn Road Housing Scheme—No. 1.
Kildean Toll Housing Scheme.
Single Cottage, Torbrex.
Single Cottage, Torbrex Lane.
Bungalow, Livilands Gate.
Double Cottage, Drip Road.
Double Villa, Lennox Avenue.
Double Bungalow, Glebe Crescent.
Bungalow, Randolph Road.
Three Villas, Whitehill Place.
New Infirmary, Livilands Gate.
New School, Riverside.

in all of which cases the drainage was found to be well laid and gas-tight. The interception, disconnection, ventilation, and inspection were satisfactorily carried out. Eight certificates were granted to the Burgh Engineer.

DRAINAGE AND SANITARY IMPROVEMENTS OF EXISTING PROPERTIES.

The following is a list of the properties wherein repairs were carried out, and to the drainage of which the smoke test was applied during the year :—

" Tredinnock," Clarendon Place.—New section of 4″ fireclay drainage tested with smoke and found to be well and carefully laid.

" Hurst Grange," Victoria Place.—New section of 4″ cast-iron piping tested, and found to be gas-tight.

16 Glebe Crescent.—The smoke test was applied to a new section of 4″ fireclay drainage, and the work was found to be executed in a satisfactory manner.

5 Clarendon Place.—New section of 4″ fireclay piping tested with smoke and found to be gas-tight.

5 Pitt Terrace.—New section of 4″ fireclay piping tested with smoke, and found to be satisfactory.

3 Viewfield Place.—New section of 4″ fireclay piping tested with smoke, and found to be laid in a sound and satisfactory manner.

Easter Livilands.—New 5″ cast-iron drainage tested and found to be gas-tight.

5 Douglas Street.—The smoke test was applied to the drainage and sanitary fittings of this property, and the same was found to be in a sound sanitary condition.

45 Broad Street.—The smoke test was applied to the drainage of this property, and found to be satisfactory.

52 Broad Street.—The smoke test was applied to the drainage of this property, and found to be unsatisfactory.

19 Spittal Street.—The drainage of this property was laid bare, and the defective parts made good.

2 Springfield Place.—The drainage was found to be defective, but has since been remedied.

98 Upper Craigs.—Defective section of drain relaid.

54 Port Street.—One new " Washdown " W.C. fitted up, along with 1 new fireclay white-enamelled sink.

51 Port Street (shop).—Two new extra "Washdown" W.C.'s fitted up, and 2 new lavatory basins for the use of the male and female employees.

37 Arcade.—One new " Washdown " W.C. fitted up.

32 Murray Place (shop).—One new extra " Washdown " W.C. fitted up for the use of the female employees, along with 1 new fireclay white-enamelled sink.

33 and 35 Murray Place (shop).—One new extra "Washdown" W.C. fitted up for the use of the female employees, along with 1 new fireclay white-enamelled sink.

5 George Street.—One " Shanks " W.C. abolished and 1 " Washdown " W.C. fitted up in lieu thereof.

60 Baker Street.—Three new " Washdown " W.C.'s erected.

41 Broad Street.—One new fireclay white-enamelled sink erected.

6 Abbey Road.—One new fireclay white-enamelled sink erected.

76 Cowane Street.—One new fireclay white-enamelled sink erected, and 1 new cistern erected for W.C. in courtyard.

GENERAL NUISANCES.

Considerable time has been taken up during the year in the suppression and removal of petty nuisances.

Unfortunately, we have with us the proprietor or factor who seems to think that his only obligation towards his tenants is to collect the rents as regularly as possible, irrespective of whether he keeps the property in repair or not. Then, again, we have the proprietor or factor with whom we have every consideration, who, on receiving an " Intimation " of a nuisance or structural defects, or finding out a repair that requires to be done to his property, gets the necessary work done at once, so that his tenants may be as comfortable as himself.

The same applies to tenants. We have the tenant who takes no interest in keeping the house in a habitable condition, and seems to regard the structure as made of cast-iron.

There is no doubt that a proprietor or factor will object to do repairs, knowing that in a very short time, he will have to do them all over again, through the mischievousness or carelessness of his tenant. When we see square yards of plaster knocked off walls and water closets choked with ashes, potato peelings, etc., we sometimes wonder how any repairs are done at all. Until united action is taken by the proprietor or factor, and the Local Authority to root out this dangerous unit of society—the destructive and dirty tenant who usually does not confine her dirt to her own house, but applies her notions of equality by spreading it over the common stairs and passages, the lavatory or anywhere else used in common—so long shall this matter of repairs be a bone of contention between owner and occupier.

Then, again, we have the tenant who does all she can to keep her house as it should be, and it is to persons of this class that we who administer the various Public Health Acts have to thank.

MINOR NUISANCES REMEDIED.

Choked Traps	193
Choked Drains	112
Choked Water Closets	39
Choked Rain Conductors	26
Defective Plasterwork Repaired	74
Defective Woodwork Repaired	29
Defective Roofing repaired	41
Defective Flooring repaired	21
Dirty Areas cleansed	31
Dirty Houses cleansed	18
Dirty W.C. Apartments cleansed	27
Pigstyes Limewashed and cleansed	23
Stables Limewashed and cleansed	13
Verminous Houses cleansed	11
Accumulations of Manure and Refuse removed	41
Waste and Rainwater Pipes disconnected from soil drain	4
New Washhouse Boilers erected	3
	706

GENERAL INSPECTIONS.

The nature and number of the Inspections carried out during the year 1926 were as follows :—

Infectious Diseases Inquiries (including Pulmonary Tuberculosis)	122
General Nuisances	2352
Cleansing of Dirty Houses	36
Overcrowding of Dwelling-houses (non-ticketed)	12
Overcrowding of Dwelling-houses (ticketed)	1
Lighting of Common Stairs and Passages	1441
Sweeping and Washing of Common Stairs and Passages	485
Whitewashing and Painting of Common Stairs and Passages	1048
Ventilation of Staircases	—
Paving of Areas and Courtyards	2
Smoke Abatement	47
Smoke Testing Drainage and Sanitary Fittings	45
Improving Drainage and Sanitary Fittings	96
Water Supply (including Chemical and Bacteriological Examinations)	23
Houses Let in Lodgings (separate rooms)	125
Farmed-Out Houses	—

Tents and Vans	11
Ticketed Houses (Burgh Police (Scotland) Act, 1903, Section 67)	—
Housing (Inspection of District) Regulations, 1910	342
Rent Restriction Acts	65
New Buildings and Additions	64
Food and Drugs Acts	153
Margarine Act and Marking of Eggs and Ticketing of Meat	195
Food Inspection throughout Shops, etc.	160
Ice Cream and Fried Fish Shops	135
Markets and Slaughter-house	37
Other Offensive Businesses	24
Dairies, Cowsheds and Milkshops	71
Stables	36
Pigstyes	61
Factories and Workshops	131
Bakehouses	43
Schools and other Public Buildings	91
Public Places of Amusement	63
Fertilisers and Feeding Stuffs Act	—
Rag Flock Act	—
Shops Act and Early Closing Acts	526
Atmospheric Pollution	36
Meteorological Observations	739
Miscellaneous	984
LABORATORY WORK.—Examination for Fat and Solids in Milk	63
Bacteriological Examination of Milk	8
Microscopical Examination of Milk	13
Sedimentation in Milk	36
Examination of Air for CO_2	25
Bacteriological Examination of Air	25
Suspended Impurity in the Atmosphere	148
Kata Thermometer Tests in School Classrooms	177
Total Inspections	10,297

INCREASE OF RENT (RESTRICTIONS) ACTS.

Twenty applications were made by occupiers for certificates regarding the condition of their houses in respect to habitability. Seventeen certificates were granted. In 2 cases it was quite apparent that the occupiers of the houses were trying to evade the payment of rent, while in the remaining case the house, which is isolated, is being removed, so as to provide room for a new Picture House.

The work entailed visits of inspection to the number of 65 while the repairs were being executed. The chief repairs carried out were as follows :—

(1) Dampness of ceilings caused by defective roofs and guttering.
(2) Dampness of walls caused by defective harling and broken rainwater conductors.
(3) Wooden frames of windows decayed and broken.
(4) Broken plasterwork on walls and ceilings.
(5) Defective flooring, etc.
(6) Defective woodwork round sinks.
(7) Defective doors.
(8) Defective grates.
(9) Other minor defects.

HOUSING.

As joint designated Officers under the Housing Act, 1925, Dr. Penman, Medical Officer of Health, and I beg to submit the following report on the general housing conditions of the Burgh for the year ending May, 1927.

(1) The sufficiency of working-class dwellings.

The total number of inhabited houses in the Burgh as recorded in the Valuation Roll on May 28th, 1927, is 5,063, comprising 423 houses of one apartment, 1,737 houses of two apartments, 1199 houses of three apartments, and 1,704 houses of four apartments, and over

Of the total inhabited houses

8% are of one apartment.
34% are of two apartments.
24% are of three apartments.
and 34% are of four apartments, and over.

The population are housed as follows :—

5% of the population living in one-apartment houses.
33% of the population living in two-apartment houses.
24% of the population living in three-apartment houses.
38% of the population living in four-apartment houses, and over.

(2) The habitability of existing dwellings and action taken to deal with defective or uninhabitable dwellings.

Number of Houses unfit for Human Habitation over the whole Burgh Area :—

	Houses.	Apartments.	Individuals.
No. 1 or Broad Street District.	195	One	546
	30	Two	128
	9	Three	42
	234	houses with a personnel of	716
No. 2 or Cowane Street District.	20	One	56
	20	Two	85
	6	Three	28
	46	houses with a personnel of	169
No. 3 or Port Street District. (including St. Ninians).	81	One.	227
	28	Two	120
	8	Three	38
	117	houses with a personnel of	385

In the whole burgh there are 397 houses unfit for human habitation housing 1,270 persons.

The percentage of uninhabitable houses over the whole Burgh is 8, distributed as undernoted :—

In No. 1 or Broad Street District, ...	24%
In No. 2 or Cowane Street District, ...	2%
In No. 3 or Port Street District, ...	6%

Overcrowding.

Overcrowding is prevalent over the burgh, and the worst cases are herewith detailed :—

There are 11 one-apartment houses, and the number of persons who reside therein is as follows :—

No. 1 5 adults and 6 children = 11 persons.
No. 2 5 ,, ,, 3 ,, = 8 ,,
No. 3 5 ,, ,, 3 ,, = 8 ,,
No. 4 5 ,, ,, 3 ,, = 8 ,,
No. 5 2 ,, ,, 5 ,, = 7 ,,
No. 6 2 ,, ,, 4 ,, = 6 ,,
No. 7 2 ,, ,, 4 ,, = 6 ,,
No. 8 2 ,, ,, 3 ,, = 5 ,,
No. 9 4 ,, ,, 1 child = 5 ,,
No. 10 2 ,, ,, 3 children = 5 ,,
No. 11 2 ,, ,, 3 ,, = 5 ,,

The worst cases in two-apartment houses are as follows :—

No. 1 9 adults and 11 children = 20 persons.
No. 2 6 ,, ,, 9 ,, = 15 ,,
No. 3 7 ,, ,, 5 ,, = 12 ,,
No. 4 8 ,, ,, 5 ,, = 13 ,,

The worst case in a three-apartment house is
8 adults and 7 children = 15 persons.

and in a four-apartment house there are
5 adults and 11 children = 16 persons.

(3) Schemes dealing with Improvement of Insanitary Areas.

The demolition in connection with the First Section of the St. Mary's Wynd Improvement Scheme was completed during the year and the erection of 11 houses, comprising 10 of three apartments and 1 of two apartments, has been commenced.

In order to allow demolition to proceed in connection with the Second Section of the same Scheme, the Town Council have provisionally fixed the erection of 30 two-apartment houses on Craigforth Estate at Raploch, in order to accommodate the dehoused tenants.

(4) Housing Schemes.

IN COURSE OF ERECTION.

(a) Drip Road Housing Scheme—No. 1.

8 houses of two apartments.
30 houses of three apartments.
—
Total 38
═

(b) Burnside Housing Scheme.

20 houses of three apartments.

(c) St. Mary's Wynd Improvement Scheme—First Section.

1 house of two apartments.
10 houses of three apartments.
—
Total 11
═

TENDERS ACCEPTED FOR

Bannockburn Road Housing Scheme—No. 2.

44 houses of two apartments.
44 houses of three apartments.
8 houses of four apartments.
—
Total 96
═

Provisionally approved by the Scottish Board of Health.

Drip Road Housing Scheme—No. 2.

40 houses of two apartments.
26 houses of three apartments.

Total 66

Provisionally fixed pending negotiations with Scottish Board of Health.

Raploch Housing Scheme.

30 houses of two apartments.

Houses Erected by Private Builders.

12 houses of four apartments and over.

The number of houses estimated at May, 1927, as required adequately to meet the needs of the Burgh (including houses required to replace houses at present occupied that should be closed and demolished), is in our opinion 188. This is apart altogether from the 273 houses which are in course of erection and provisionally approved by the Scottish Board of Health and houses erected by private builders, as detailed under Housing Schemes.

In addition to this estimate of new houses there is a great need for further slum clearance and improvement schemes.

Housing (Inspection of District) Regulations, 1910.

Report for the year ended 31st December, 1926, on proceedings taken as regards the Inspection, Improvement, and Closure of Dwelling-houses.

A.—Housing (Inspection of District) Regulations, 1910.

1. Number of dwelling-houses inspected, ...	226
2. Number of dwelling-houses which on inspection were considered to be in a state so dangerous or injurious to health as to be unfit for human habitation, ...	8
3. Number of representations made to the Local Authority with a view to making of closing orders, ...	None
4. Number of dwelling-houses in respect of which closing orders were made	None
5. Number of dwelling-houses the defects in which were remedied without either the making of closing orders or the service of notices under Section 3 (1) of the Housing (Scotland) Act, 1925, ...	None
6. Number of dwelling-houses which after the making of closing orders were put into a fit state for human habitation, ...	None

B.—Housing (Scotland) Act, 1925.

1. Number of dwelling-houses in respect of which notices were served under Section 3 (1), ...	116
2. Number of dwelling-houses rendered fit for human habitation under Section 3 (1), ...	65
3. Number of dwelling-houses in respect of which closing orders were deemed to have become operative under Section 3 (1), ...	None
4. Number of dwelling-houses rendered fit for human habitation by the Local Authority under Section 3 (2), ...	None

LODGING-HOUSES.

The recognised lodging-houses within the Burgh number 7. The total number in lodgers allowed by licence is 162. With the exception of one house, they are all situated of Broad Street District, and the bye-laws in all cases were adhered to. The total numbered of inspections to lodging-houses during the year was 125.

INSPECTION OF FACTORIES, WORKSHOPS AND WORKPLACES.

There are within the Burgh, 34 factories, 144 workshops, and 49 workplaces, including 24 restaurant kitchens, on the register, exclusive of bakehouses. The following tables give and indication of the work carried out during the year :—

Premises.	Number of	
	Inspections	Written Notices
Factories (including Factory Laundries) ...	43	3
Workshops (including Workshop Laundries)	74	11
Workplaces (other than Outworkers' premises)	14	2
Totals	131	16

DEFECTS FOUND IN FACTORIES, WORKSHOPS AND WORKPLACES.

Particulars	Number of Defects		
	Found	Remedied	Referred to H.M. Inspector
Nuisances under the Public Health Acts :—			
Want of Cleanliness...	7	7	...
Want of Ventilation	...	...	...
Overcrowding	...	...	...
Want of Drainage of Floors	...	...	...
Other Nuisances	21	21	...
Sanitary Accommodation			
Insufficient	...	...	...
Unsuitable or Defective ...	4	4	...
Not separate for Sexes	...	...	...
Offences under the Factory and Workshop Acts :—			
Illegal occupation of Underground Bakehouse	...	...	...
Other Offences	3	3	...
Totals	35	35	...

One notice of occupation was received from H.M. Inspector of Factories, and attended to. The total number of visits under the Factory and Workshop Act was 131.

BAKEHOUSES.

At the end of the year there were 14 bakehouses (4 workshops and 10 factories) on the register. They are all being kept in a fairly satisfactory condition as regards ventilation lime-washing, cleansing, etc.

The total number of persons employed in bakehouses within the Burgh is as follows :— 71 males, 6 females, and 12 apprentices.

Two of the bakehouses are underground, and are well kept.

Forty-three visits of inspection were paid from time to time, and the following repairs and alterations were carried out :—

No. 1—Bakehouse (Workshop).—The existing cast-iron sink was defective and placed on a level with the floor. The proprietor on being communicated with has now erected a fireclay white-enamelled sink set on pedestals.

No. 2—Bakehouse (Factory).—The cast-iron sink being defective, and on the proprietor being made aware of the conditions, a new fireclay white-enamelled sink has been erected on pedestals.

No. 3 Bakehouse (Factory).—This bakehouse passed into new hands in the early part of the year. The opportunity was then taken to have the following improvements effected, viz. :—

New top fitted on table.
New fireclay white-enamelled sink erected and set on pedestals.
Plasterwork on walls and ceiling of bakehouse repaired
and the interior walls lime-washed.

MARKETS.

The three live-stock Markets continue to be well conducted.

UNSOUND FOOD.

Visits of inspection to the number of 490 were made to shops in the Burgh where food stuffs are retailed, and the following seizures were made :—

Article	Where seized	Weight	Reasons for Seizure
Meat	Butcher's Shop	23 lbs.	Tainted and unsound.
„	„	29 lbs.	„
Mincing Meat	„	57 lbs.	„
„	„	44 lbs.	„
	Total weight seized	153 lbs.	

LABORATORY WORK.

The nature of the work carried out in the Laboratory is of great importance, especially in connection with the testing of informal samples of milk. The work is herewith detailed:—

Milk.

Sixty-four samples of sweet milk were examined for milk-fat and solids-not-fat. Of these, 9 samples were "non-genuine" as detailed :—

Sample No. 4.—Deficient in solids-not-fat, to the extent of 3%.
Sample No. 11.—Deficient in solids-not-fat, to the extent of 2%.
Sample No. 18.—Deficient in solids-not-fat, to the extent of 7%.
Sample No. 38.—Deficient in milk-fat to the extent of 3%.
Sample No. 43.—Deficient in milk-fat to the extent of 13%.
Sample No. 45.—Deficient in milk-fat to the extent of 1%.
Sample No. 53.—Deficient in milk-fat to the extent of 5%.
and also deficient in solids-not-fat, to the extent of 8%.
Sample No. 56.—Deficient in solids-not-fat, to the extent of 3%.
Sample No. 61.—Deficient in solids-not-fat, to the extent of 5%.

Formal samples were procured from all the vendors of the above milks, and on fuller analysis were all found to be genuine.

Sediment.

Thirty-six samples of sweet milk were examined by means of Thomson's "Minit" Tester. Examination of the cotton discs after the tests showed that only 8 of the samples were clean milks, 20 were fairly clean, and 8 were dirty.

Preservatives.

One sample of sweet milk was handed into the office, and Hehner's test was applied to it. The test showed that the milk contained formaldehyde as a preserving agent.

Bacteriological Examination.—Four samples were examined with the following results :

Sample No. 7.—In 48 hours, 30,000 bacteria per cubic centimetre.
Sample No. 2.—In 48 hours, 80,000 bacteria per cubic centimetre.
Sample No. 3.—In 48 hours, 350,000 bacteria per cubic centimetre.
Sample No. 4 (certified milk).—In 48 hours, 15,000 bacteria per cubic centimetre.

Microscopical Examination

Thirteen samples were examined microscopically. Eleven of these samples were drawn from cows selected by the Veterinary Surgeon (Mr. George C. Inglis, M.R.C.V.S.). The remaining 2 samples were obtained from dairy premises in the Burgh.

In no instance was any acid-fast bacilli discovered in the centrifugalised deposit or milk-fat.

Butter.

One sample of butter was handed in to the office by a person who, being suspicious of its quality, wished to ascertain whether it was margarine or butter.

On analysis it proved to be genuine. The analysis is as follows :—

	Per Cent.
BUTTER FAT	86·09
CURD	2·37
SALT	1·05
WATER	10·49
	100·00

Whisky.

The sale of spirits is governed by the Licensing Act, 1921, Section 10, which states that the strength of whisky, brandy, rum or gin, shall not be weaker than 35 degrees under proof, i.e., shall not contain less than 65 per cent. of proof spirit.

Six samples were tested by means of Sike's Hydrometer. Only 1 sample was genuine, the five other samples were found to be " non-genuine " according to the recognised strength of 35 degrees under proof, but it was found that the Licence Holders concerned had the barrels properly labelled.

Air—Carbon-dioxide (CO_2) Content.

Thirty-seven samples of air were collected and tested by the Pettenkofer method. Eight of these were samples of outside air, 4 were taken in a cinema and a theatre, while the remaining 25 were obtained from various classrooms in the schools within the Burgh. The results of 31 of these tests will be found in another section of my report under the heading " Ventilation of Schools."

The following statement shows the results of the other 6 samples :—

No. of Sample	Where Taken	Carbon-dioxide (CO_2) content per 10,000 vols. of air	Respiratory Impurity of CO_2 per 10,000 vols. of air
1	Outside Air	3·7	Nil.
2	Area of Alhambra Theatre	10·9	7·2
3	Balcony of Alhambra Theatre	14·4	10·7
4	Outside Air	3·7	Nil.
5	Area of Picture House	11·0	7·3
6	Balcony of Picture House	16·1	12·4

Bacteriological Examination.

Thirty-three petri dishes containing neutral-red agar were exposed and incubated. The following table has been drawn up, showing the number of micro-organisms present in the atmosphere at the time of exposure.

Situation.	Number present in one cubic foot of air.	Number present in one cubic metre of air.	Remarks.
Area of Picture House, ...	35	1,232	
Balcony of Picture House,	27	953	
Kerb in Murray Place, ...	228	8,048	Sunny. A great deal of foot and vehicular traffic passing.
Beside Wall in Murray Place,	27	953	In shade. Only about 4 ft. from previous plate.
Centre of Road in Port Street, ...	70	2,471	
Opposite Black Boy Fountain, ...	6	212	Bright sunshine and slight winds.
Top of freezer in Ice Cream Shop, ...	74	2,612	
Taken in Valley Cemetery,	19	671	Sunny and windy.
On grass on Gowan Hill,	Nil	Nil	Sunny and windy.
In Arcade, ...	8	282	In sheltered position.

The 23 remaining tests, not contained in the above table, were carried out in connection with the examination of the ventilation of the classrooms ofthe Public Schools, and will be found in that section dealing with schools.

MILK AND DAIRIES (SCOTLAND) ACT.

The number of premises registered under Section 7 of the above Act at the beginning of the year was 44, comprised as follows :—

5 dairy farms, 19 milkshops, 13 milk carts, and 1 milk barrow, belonging to dairymen within the Burgh, and 5 milk carts belonging to persons outwith the Burgh, and also part of the premises at Stirling Railway Station.

The Dairy Bye-laws came into force at the end of March during the year under survey. The premises of the 5 dairy farmers were submitted to a Score Card inspection.

Score Card System of Inspection.

The following table clearly shows the amount of points that were allowed to each of the 5 dairy farmers on Equipment and Methods for 1926 :—

Equipment	Points Attainable	DAIRY FARM A. Points Allowed	B. Points Allowed	C. Points Allowed	D. Points Allowed	E. Points Allowed
Water—	5					
Cleanliness ... ... Amount		5	5	5	2	2
Cowshed (Construction)—	12					
Floor Gutters Walls Roof Stalls Light ... ... Ventilation		9	10	12	6	8
Utensils—	9					
Condition of Utensils ... ... Pails ... ... Steam ... ... Cooler ... ... Suits and Towels ... ... Washing Facilities		8	6	3	3	3
Milkroom—	4					
Construction ... ... Situation		4	4	4	4	3
Total	30	26	25	24	15	16

Method	Points Attainable	DAIRY FARM. A. Points Allowed	B. Points Allowed	C. Points Allowed	D. Points Allowed	E. Points Allowed
Cows—	15					
General Cleanliness ... ... Flanks ... ... Udders ... ... Clipping of Hair on Udders ... Cleaning of Udders before milking		12	10	6	6	5
Cowsheds—	10					
General Cleanliness ... ... Manure removed twice daily ... Freedom from Dust ... ... Condition of Yard and Drains		8	8	7	7	5
Milkroom—	8					
Cleanliness. ... ... Facilities for securing cleanliness of Milk		8	6	6	6	6
Utensils—	10					
Cleanliness ... ... Sterilisation ... ... Protection from contamination		7	7	5	4	3
Milking—	12					
Methods of Milking ... ... Clean Hands ... ... Clean Stools		10	8	3	4	4
Handling—	15					
Cleanliness of Attendants ... Immediate removal of Milk from Cowshed ... ... Temperature to which Milk is cooled ... ... Method of transportation ...		12	7	5	5	5
Total	70	57	44	32	32	28

Totals in Equipment and Method	A.	B.	C.	D.	E.
	83	69	64	47	44

Certified milk is produced at the Dairy Farm A, and the herd of cows were subjected to the Hypodermic and Ophthalmic tests, and Mr. George C. Inglis, the Veterinary Surgeon, reported that the 21 cows passed the test.

The following table is reproduced from my Annual Report for 1925, and shows the main provision of the 5 byres within the Burgh.

Dairy Farm.	Number of cows that can be housed.	Number of cows presently housed.	Cubic feet per cow.	Lighting Area in square feet per cow	Ventilating Area in square inches per cow	Floor Space in square feet per cow	Double-headed Byres width of passage and grips	Single-headed Byres width of passage and grips	Height of wall head from floor	Height in calculating cubic feet per cow
			400	2	30	40	7′0″	5′6″	8′0″	...
A (1) ...	14	11	581·2	1·3	27·7	54	...	8′ 6″	9′ 5″	9′ 5″
(2) ...	14	10	497·1	2·2	27·7	41	...	8′ 6″	9′ 5″	12′ 0″
B ...	42	34	368·3	1·2	130·8	36	6′ 3″	...	8′ 6″	10′ 6″
C ...	20	20	468·0	10·2	55·6	47	8′ 9″	...	10′ 0″	10′ 0″
D (1) ...	10	10	393·6	1·0	46·7	38	8′ 2″	...	8′ 0″	10′ 6″
(2) ...	10	10	394·7	1·6	46·7	38	8′ 8″	...	8′ 0″	10′ 6″
E ...	27	5	411·0	0·5	42·2	60	8′ 7″	5′ 7″	6′ 0″	9′ 0″
Totals	137	100								

The cubic space per cow is calculated on the number of stalls in the byre or the cows that can be housed, and not on the actual number of cows in the byre.

A. Numerous improvements were effected in these byres during the year, and they now comply with the structural requirements of the bye-laws.

B. The cubic capacity is deficient to the extent of 31·7 cubic feet, but the ventilating area is abundant. The lighting area is deficient to the extent of 0·8 square foot.

C. The byre is in good condition.

D. No. 1. Byre.—The lighting area is deficient to the extent of 1 square foot.
No. 2 Byre.—The lighting area is deficient to the extent of 0·4 square foot.
The cubic capacity in No. 1 byre is deficient to the extent of 6·4 cubic feet, and in No. 2 byre to the extent of 5·3 cubic feet.

E. The lighting area is deficient to the extent of 1·5 square feet.

SCORE CARD SYSTEM OF INSPECTION OF THE 19 MILK SHOPS

		No. 1 or Broad Street District.									No. 2 or Cowane Street District					No. 3 or Port Street Distirct.				
		1	2	3	4	5	6	7	8	9	1	2	3	4	5	1	2	3	4	5
	Points Attainable.	Points Allowed.									Points Allowed.					Points Allowed.				
Milk Shop (20).																				
(1) General Cleanliness, ...	5	4	3	4	4	4	4	4	4	4	5	5	4	4	3	5	5	4	5	4
(2) Condition of Floor, Walls and Ceiling, ...	5	4	4	3	3	4	3	3	3	3	5	5	3	4	2	5	4	5	4	3
(3) Light and Ventilation, ...	5	4	4	3	3	3	3	3	2	3	5	4	4	3	3	4	4	4	3	3
(4) Free from contaminated surroundings, ...	5	4	3	3	3	4	3	2	3	4	5	4	4	3	3	5	4	5	3	4
Utensils (10).																				
(1) Construction and condition of utensils, ...	5	4	4	4	4	3	3	4	2	2	5	4	4	3	3	5	5	4	4	4
(2) Provision made for cleansing purposes, ...	5	4	4	4	4	4	4	4	4	4	5	4	4	4	4	4	5	5	4	4
Handling of Milk (20).																				
(1) Where vessels are placed, ...	5	4	4	3	3	3	4	2	3	4	5	4	3	4	3	5	5	4	4	4
(2) Milk vessels protected from dust, etc., ...	5	4	4	4	4	4	2	3	4	0	5	5	4	4	4	5	4	2	3	4
(3) Decanting of Milk, ...	5	4	4	4	4	2	4	4	3	2	4	4	3	3	3	4	5	4	3	3
(4) Cleanliness of Attendants, ...	5	5	5	5	4	4	5	4	5	5	5	5	4	4	5	5	5	5	4	3
Total, ...	50	41	39	37	36	35	35	33	33	31	49	44	37	36	33	47	46	42	37	36

There is practically nothing to be said regarding milkshops, except the protection of the milk from contamination. It is unfortunate that out of the 19 milkshops registered only in 3 is the sale of milk and dairy produce solely carried on. The remaining 16 are what one would term general shops. It is in the latter that the proper protection of the milk cannot adequately be made. I have had occasion in several instances to warn shopkeepers very strongly as to the covering of milk containers. In all cases they have made provision for the proper protection of the milk on the premises, but, mainly due to carelessness, it is not always utilised when necessary. The method of decanting milk from the vessel into the jug of the consumer is not all that could be desired. The measure is dipped into the milk, taken out, and then it is laid on a slab on the counter or on the counter itself. I have advised these retailers to obtain a measure which may be suspended within the milk vessel when not in use. The premises are always maintained in a clean condition.

During the year numerous visits were made to the registered platform at Stirling Railway Station to ascertain if the milk in transit by rail was being conveyed in sealed or locked containers. I found it necessary to warn " Senders " by letter, and it gives me pleasure to report that the milk is now being conveyed in such a manner as to comply with the Milk and Dairies (Scotland) Order, 1925, Section 15.

The Milk (Special Designations) Order.

Of the four grades of milk established by the above Order, only the premier grade designated " Certified Milk," is produced and retailed in the Burgh. One licence for the production and 2 licences for the retailing of " Certified Milk " were renewed during the year.

The producer's premises were submitted to a score card inspection, and the number of points necessary for the continuance of the licence was obtained. The Score Card employed, and the result of the inspection, is given elsewhere in this Report.

Four samples of " Certified Milk " were procured and forwarded for chemical and bacteriological examination.

The examinations gave the following results :—

Sample No.	Per cent of Milk-fat	Number of Bacteria present in 1 cubic centimetre.	Evidence of Bacillus Coli in 0·1 cubic centimetre.
1.	4·15	12,000	Absent.
2	3·52	10,000	Absent.
3	3·52	15,000	Absent.
4	3·53	6,000	Absent.

All the above samples conform to the standard laid down by the Scottish Board of Health.

FOOD AND DRUGS ACTS.

Fifty-two formal samples and 9 informal samples were procured for analysis, and were forwarded to our Public Analysts (Messrs. R. R. Tatlock and Thomson, 156 Bath Street, Glasgow).

Of the total 57, or 93·4% were reported as " Genuine," while 4, or 6·6% were reported as " Non-Genuine."

The following detailed statement shows the nature of the samples taken :—

Formal Samples.—

Nature of Sample.	Number Taken.	Genuine.	Non-Genuine.
Sweet Milk	23	20	3
Margarine	6	6	...
Butter	5	5	...
Whisky	4	4	...
White Pepper	3	2	1
Cream of Tartar	2	2	...
Cinnamon	2	2	...
Coffee	2	2	...
Cream	1	1	...
Double Cream	1	1	...
Bread and Butter	1	1	...
Cocoa	1	1	...
Black Pepper	1	1	...
Totals	52	48	4

Sweet Milk.—

The three " Non-Genuine " sweet milks were deficient in milk-fat, or solids-not-fat, to the extent of :—

No. 1.—Deficient in milk-fat to the extent of 14%.

No. 2.—Deficient in milk solids other than milk-fat to the extent of 2%.

No. 3.—Deficient in milk-fat to the extent of 8%.

It is interesting to note that these three " non-genuine " samples were obtained on a Sunday morning.

The vendors of the above " non-genuine " samples all appeared before the Sheriff with the following results :—

Vendor of No. 1 sample was fined £5.

In the case of No. 2 sample the charge was found not proven.

Vendor of No. 3 sample was fined £3.

White Pepper.—

One sample, of White Pepper, was reported as "Non-Genuine" in respect that it contained 4% of ground ginger. I interviewed the retail merchant from whose shop the sample was obtained. He informed me that it was an inferior pepper, but could not understand how the ground ginger came to be present in the pepper. He referred me, however, to the Wholesale Merchants, a Glasgow Firm. I communicated with them and saw their representative in my office. His explanation being quite satisfactory, I thereupon withdrew the complaint.

Informal Samples.—

Nature of Sample.	Number Taken.	Number Genuine.	Number Non-Genuine.
Sweet Milk	9	9	...

The Public Health (Condensed Milk) Regulations.

On no occasion have I found any reason for complaint regarding the proper labelling of tins.

Two samples of Full Cream Condensed Milk (Sweetened and Unsweetened) were forwarded for analysis, and were reported as in compliance with the chemical standards fixed by the above regulations.

BACTERIOLOGICAL EXAMINATION OF MILK.

Fifteen samples of sweet milk were forwarded to our Bacteriologist (Professor Carstairs Douglas, Anderson College, Glasgow) for examination. Four were samples of " Certified Milk " and 11 samples of ordinary milk. The ordinary 11 milks were reported upon as follows :—

	Total Organisms per 1 c.c.	Bacillus Coli in 1/100th of of a c.c.	Bacillus Coli in 1/1000th of a c.c.
No. 1 Sample	60,000	Absent	Absent
No. 2 Sample	48,000	Absent	Absent
No. 4 Sample	100,000	Absent	Absent
No. 6 Sample	48,000	Present	Absent
No. 7 Sample	280,000	Present	Present
No. 8 Sample	40,000	Absent	Absent
No. 9 Sample	112,000	Present	Present
No. 10 Sample	640,000	Present	Present
No 11 Sample	1,060,000	Present	Present
No. 12 Sample	190,000	Absent	Absent
No. 13 Sample	1,400,000	Present	Present

Microscopical Examination of Milk.

Three samples of milk obtained from 3 separate cows in the Burgh by Mr. George C. Inglis, the Veterinary Surgeon, were examined microscopically by Professor Carstairs Douglas, who stated that the samples were negative as far as acid-fat organisms (T.B.) were concerned.

SEDIMENT OR DIRT IN MILK.

A great improvement has been effected and maintained in the amount of sediment or dirt in milk since the principal Act came into force. The results of the analysis are as follows :—

		Parts per 100,000.						
How and Where Obtained.	Number Obtained.	Less than 0·5	0·5 to 1·0	1·0 to 1·5	1·5 to 2·0	2·0 to 2·5	2·5 to 3·0	3·0 to 3·5
From Milkshops	10	2	1	5	...	1	1	...
Taken in the " Course of Delivery : "—								
(a) Station Premises ...	11	...	...	5	2	2	1	1
(b) From Buses	3	...	2	1	...	...	...	...
(c) To Milkshop	3	...	...	1	1	...	1	...
From Carts	4	...	1	...	2	1	...	...
Bottled Milk from Grocer's Shop	1	...	...	1	...	...	...	...
Totals ...	32	2	4	13	5	4	3	1

It will be seen that clean milk can be produced by the exercise of a little more care in the production. I am of the opinion that a standard should now be fixed as regards the amount of sediment or dirt permissible in milk, say, **" that the amount of sediment or dirt in sweet milk shall not exceed 2 parts per 100,000 parts of sweet milk."**

PRESERVATIVES IN FOOD.

Seven samples of sausage were procured for analysis, and the presence of Sulphur Dioxide was reported in the following amounts :—

Sample No. 1 contained 820 parts of Sulphur Dioxide per million.
Sample No. 2 contained 915 parts of Sulphur Dioxide per million.
Sample No. 3 contained 840 parts of Sulphur Dioxide per million.
Sample No. 4 contained 280 parts of Sulphur Dioxide per million.
Sample No. 5 contained 197 parts of Sulphur Dioxide per million.
Sample No. 6 contained 266 parts of Sulphur Dioxide per million.
Sample No. 7 contained 120 parts of Sulphur Dioxide per million.

I wrote the vendors of samples 1, 2 and 3, who promised to have the percentage of SO_2 substantially lowered.

A sample of Rusks, or filling matter for sausages, was forwarded to our Analysts, who failed to detect the presence of any preservative.

Six samples of cake (Sponge Cake 4, Currant Cake 1 and Lemon Cake 1) were analysed and 5 of them were reported as free from boric acid or any other preservative.

In addition I asked the Analysts to furnish me with a report as to the energy value of 1 lb. of Lemon Cake and 1 lb. of Currant Cake. He replied in the following terms :—

" The energy value of both cakes is fully one-half more than ordinary white bread, which gives about 1,050, calories perlb. on an average. It seems to me that, at 5d. per lb. the consumer is getting good value, as in addition to flour, there are the more expensive ingredients, sugar and fat, which are only present in bread to a very small extent. There is boric acid in No. 3, but the percentage is so small that exception can hardly be taken to it until the new Regulations come into force."

In December the following circular letter was sent to all the butchers in the Burgh :—

THE PUBLIC HEALTH (PRESERVATIVES, ETC. IN FOOD) REGULATIONS (SCOTLAND) 1925.

Maximum Amount of Preservatives both in the Solid and Liquid Forms that may be used in Sausage Meat.

Dear Sir,

The new standard is only slightly higher than that stated in the Draft Report (3 grains per lb.) as 450 parts per million is equal to 3·15 grains per lb.

Solid Form—(Metabisulphate of Soda)—

Varies considerably in strength. A Metabisulphate of Soda containing 60% of sulphur dioxide would require 3·78 grams (Avoirdupois) to give 450 parts of sulphur dioxide per million of the product in 20 lbs. of sausage meat, with 55% strength 408 and with a 63% strength 467 parts of sulphur dioxide per million of the product. If the Metabisulphate of Soda contained 60% of sulphur dioxide, or under, sausage makers would be quite safe, and even with the 63% article the sulphur dioxide might fall to 450 owing to a slight loss during mixing.

Liquid Form (Bisulphate of Lime or Bisulphate of Soda)—

The liquid containing 5% of sulphur dioxide would require in 20 lbs. of sausage meat 2½ fluid ounces to give 450 parts of sulphur dioxide per million of the product, and correspondingly more if the sulphur dioxide in the lime or soda is lower in strength than 5%.

In the solid form (60%) 3·78 grams (Avoirdupois), and in the liquid form (5%) 2½ fluid ounces in 20 lbs. of sausage meat, are the maximum quantities permissible, but from the aforementioned data butchers can readily estimate the amount of preservatives both in the solid and liquid form—that may be permitted in varying quantities of sausage meat.

It will be advisable to get a statement from the Dealer in this preservative giving the percentage of sulphur dioxide in the article he is retailing to the butcher, whether in the solid or liquid form.

I trust that these particulars will be of some use to you in order that the Regulations will be strictly adhered to.

Yours faithfully,
JOHN FYFE.

During the present year (1927) I obtained a sample of mince and a portion of it was cooked in the ordinary manner. It may be of interest to find that the Sulphur Dioxide present in the sample of mince is greatly decreased by the process of cooking.

Raw Mince contained 275 parts per million,
Cooked Mince contained 163 parts per million.

or a loss in Sulphur Dioxide after cooking of 41%.

ICE CREAM.

The premises of the 16 ice cream vendors in the Burgh were visited and inspected regularly, and only on 4 occasions was it found necessary to verbally warn vendors regarding the condition of their back premises. It gives me pleasure to report an increase on the number of Certificates granted to vendors, as during the year 1925 only 5 Certificates were granted, while the number for 1926 has increased to 9.

The following table will show the results of the analysis by our Public Analysts of the samples procured :—

No. of Sample.	Milk-fat (per cent.).	Milk Solids other than Milk-fat (per cent.).	Sugar and Starch (Corn Flour). (per cent.).	Water (per cent.).	Water Preservatives. (per cent.).	Certificate Granted to Vendors whose Samples were found to contain more than 3% of Milk-fat.	Name and Address of Holder of Certificate.
1	4·12	9·68	18·86	67·34	None	certificate granted	V. Giannandrea, 86 St. Mary's Wynd, Stirling.
2	2·56	7·54	16·48	73·42	None		
3	3·25	7·98	17·91	70·86	None	certificate granted	S. Corrieri, 4 Upper Craigs, Stirling.
4	2·62	7·66	16·59	73·13	None		
5	3·32	8·95	18·32	69·41	None	certificate granted	P. Forte, 18 Murray Place, Stirling.
6	3·19	7·03	15·61	74·18	None	certificate granted	S. Zolo, 88 Baker Street, Stirling.
7	3·12	8·59	12·92	75·37	None	certificate granted	A. France, 59 Borestone Crescent, St. Ninians.
8	3·36	8·80	21·54	66·30	None	certificate granted	P. Guilliani, 31 Baker Street, Stirling.
9	2·70	8·21	19·11	69·98	None		
10	2·71	8·42	20·54	68·33	None		
11	2·15	7·70	18·19	71·96	None		
12	2·81	8·40	18·61	70·18	None		
13	2·59	7·94	17·27	72·20	None		
14	3·18	8·72	13·88	74·22	None	certificate granted	T. Bird, 8 Newhouse, Stirling.
15	3·04	8·65	16·57	71·74	None	certificate granted	P. Janetta, 86 Main Street, St. Ninians.
16	9·15	8·82	16·49	65·54	None	certificate granted	G. Noterangelo, 18 Bow Street, Stirling.

In order to ascertain whether there is any difference in the fat content or bacterial count in sweet milk after it has been manufactured into ice cream, the following experiment was carried out in our own laboratory.

A sample of sweet milk was purchased in the morning from a local dairyman. A proportion of this sweet milk was mixed with a proper percentage of sugar and cornflour, placed in a freezer and so made into ice cream. Samples of the sweet milk and samples of the ice cream were then immediately sent to our Public Analysts and Bacteriologist for analysis and examination, the samples for bacteriological examination being enclosed in an ice-box. It is interesting to find the results obtained.

Sample A.—Sweet Milk.

	Per Cent.
Milk-fat	4·71
Milk solids other than milk-fat	8·60
Total Solids	13·31
Specific Gravity	1029·8
Preservatives	none.
	Parts per 100,000
Sediment or Dirt	2·7

Sample .B—Ice Cream.

	Per Cent.
Milk-fat	4·32
Milk solids other than milk-fat	8·70
Sugar and Starch (Corn Flour)	17·35
Preservatives	none.
Water	69·63
	100·00

These results prove conclusively that if genuine sweet milk is used in the manufacture of ice cream, the percentage of milk fat in the ice cream will be much the same as in the sweet milk. Consequently, all manufacturers of ice cream wherein the fat content is below 3% are certainly using very inferior milk. Too often do we find when partaking of ice cream small particles of ice in the mixture. This is not due to the ice in the outer chamber gaining access to the ice cream in the inner chamber, but is solely caused by the use of skim milk, which has a large per cent of water, instead of using sweet milk or cream in the preparation.

Therefore I hold that out of the 16 vendors in Stirling, 7 are using inferior milk or skim milk.

A standard for milk-fat and a bacterial count for ice cream is urgently desired.

The report on the bacteriological examination is as follows :—

Sample A.—Sweet Milk.

Bacterial Count (several plates used) =520,000 organisms per 1 cc. Marked evidence of Coliform Bacilli in 1/100th and 1/1000th cc. This milk is not very satisfactory—greater cleanliness desirable.

Sample B.—Ice Cream.

Bacterial Count (several plates used) =3,000 organisms per 1 cc. No evidence whatever of Coliform Bacilli in either 1/100th or 1/1000th cc. This is a very satisfactory specimen.

By this report it is quite apparent that in the process of freezing the bacteria are greatly lessened, while the B. Coli are entirely destroyed.

Ice Cream is a very nourishing food.

FRIED FISH AND CHIP SHOPS.

The fried fish and chip shops in the Burgh now number 15, and these are visited regularly. The premises are all well kept and only on 2 occasions was it found necessary to warn vendors regarding the excessive accumulation of trade waste in their back premises.

MARGARINE ACT.

Premises on which margarine was exposed for sale were visited from time to time in order to detect any contravention of the Act. On 10 occasions it was found necessary to verbally warn the owners of such premises.

During the year 6 samples of margarine were purchased for analysis and found to be genuine.

THE SALE OF FOOD ORDER.

Periodical visits of inspection were made to ensure that all imported produce, in so far as referred to in the above Order, exposed for sale in the shops in the Burgh was properly marked. In very few instances was it necessary to give verbal warnings to the shopkeepers.

OBSERVATIONS ON FOOD CONTROL AND THE SANITARY CONDITION OF PREMISES WHERE FOOD IS MANUFACTURED, PREPARED, STORED, OR EXPOSED FOR SALE.

Regarding this very important phase in public health administration, Regulations have been drafted by the Reporter for the following businesses :—

Baker Shops and Bakehouses.
Butcher Shops.
Confectionery Shops.
Dairies and Milkshops.
Fishmonger Shops.
Fried Fish and Chip Potato Shops.
Fruiterer Shops.
Grocer Shops.
Hotel and Restaurant Kitchens.
Ice Cream Shops.
Itinerant Vendors of Fish, Fruit, and Vegetables.

and to each of the tradesmen in the various businesses a set of the regulations along with a circular letter was issued in the following terms :—

PUBLIC FOOD SUPPLY.

With a desire to promote more efficient methods governing the preparation and sale of food, and ensuring its proper cleanliness and freedom from contamination, I have taken the liberty to draw up a set of regulations suitable to and for the general guidance of retailers and other persons who manufacture, prepare, store, distribute, or handle food for sale, and also at the same time making provision for the sanitary condition of the premises.

There is no doubt that much progress has been attained in the direction of a pure food supply during the past few years, but the principal factor likely to tend to a greater improvement in the future is the education of the public in the need for still greater care in the general handling of food.

The help and co-operation of the food retailers in Stirling in carrying out the various suggestions embodied in the regulations, and especially that section which pertains to their particular trade or business, will be much appreciated by the Local Authority.

JOHN FYFE.
Inspector, Food and Drugs Acts, etc.

Sanitary Department,
Municipal Buildings,
1926.

Circular letters were issued to all the butchers in the town regarding the conveyance and covering of meat in transit from the Slaughterhouse to butcher shops and the installing of electric fans in their shops.

Copies of each circular letter is herewith appended.

CONVEYANCE OF MEAT.

Dear Sir or Madam,

The question regarding the conveyance and covering of meat in transit from the Slaughterhouse to butchers' shops was raised at a meeting of the Local Authority on Monday, 5th April, and I was instructed to communicate with all the butchers in the town in order to bring to their notice that the most hygienic principles in the handling and conveyance of meat should be employed in the conduct of this very particular part of their business.

I may inform you that Rule 22 of the Bye-laws in connection with the Stirling Slaughterhouse reads as follows :—" No carcase, or part of a carcase, shall be removed from the Slaughterhouse without being properly covered with a clean and suitable covering ; and no person shall sit on any carcase, or part of a carcase, within the Slaughterhouse, or in course of removal, nor on any covering." If any butcher fails to carry out this Rule he is contravening the said Bye-laws. and is liable to prosecution with a fine of £5.

I would therefore respectfully ask your kind co-operation in this matter by conveying your meat in clean and proper vehicles, and that the meat be completely covered over with a clean white sheet or sheets of strong durable material.

Yours faithfully,

JOHN FYFE.

Dear Sir or Madam,

ELECTRIC FANS IN BUTCHERS' SHOPS.

In view of the oncoming season, and the warm weather in particular, I am of the opinion that all butchers should fix up an electric fan in their place of business—where it has not been already installed—so that the air in the shop may be kept as cool as possible, and at the same time act as a deterrent for flies. A 12 inch fan will work 18·2 hours per Board of Trade unit, and an 18 inch fan will work for 13·4 hours per Board of Trade unit, at a cost of 5d. per unit, so it will be generally understood that the cost in running an electric fan is very small.

Kindly give this matter your earnest consideration.

Yours faithfully,

JOHN FYFE.

I have much pleasure to enclose along with the yearly report a full set of the aforementioned Regulations.

STABLES.

There are 25 stables within the Burgh, and these are visited regularly. Thirteen notices were issued to owners regarding the lime-washing. Regulations dealing with the construction of internal surface of walls; ventilation, cleansing, and disinfection; construction of floor and courtyards ; drainage ; water supply and air space, were drawn up and issued to all owners and occupiers of stables.

PIGSTYES.

The 16 pigstyes within the Burgh were periodically visited. Eight first and 2 final notices were served on owners to have pigstyes lime-washed.

ABATTOIR.

This establishment, which is under the supervision of Mr. Peter Thornton, continues to be well conducted, and judging by the amount of meat condemned, the inspection of carcases is very thoroughly carried out.

OFFENSIVE TRADES.

Periodical visits were made during the year to the premises of the two Hide Factors, one Tallow Melter and one Tripe and Gut Cleaner at the Slaughterhouse. The premises are well kept and the business properly conducted. Two applications were granted to establish the business of Hide and Skin Factor at the Slaughterhouse.

RATS AND MICE (DESTRUCTION) ACT.

Under the above Act 356 visits were made during the year to premises infested with rats and mice.

There were 134 circular letters accompanied by leaflet No. 51 of the Board of Agriculture issued to owners of markets, slaughterhouses, stables, cowsheds and piggeries, and to a number of shop-keepers, requesting them to give us their co-operation and do their best to destroy the rodents.

During the year a rat catcher was employed on different occasions at properties in Raploch, Lower Bridge Street, Douglas Street, St. Mary's Wynd, Abbey Road Place and Dumbarton Road.

FLY NUISANCE.

During the year 201 circular letters were issued to all the owners of stables, pigstyes, byres, and to shops where food is stored and retailed, requesting their co-operation in the removal and destruction of all matter which would encourage the breeding of flies. "The number of house flies present in any area gives a very exact register of its sanitary conditions. In this capacity, flies are useful as being a health gauge which everyone can read. They are the danger-signal, calling for immediate action by all, whether private citizen or local Authority." (A. M. Stewart, F.E.S.).

PLAYING FIELDS.

It is estimated that 5 acres per 1,000 of the population is the minimum amount of ground necessary for any community that should be set aside as playing fields.

In Stirling we are very fortunate in having the King's Park and the Gowanhills, also numerous open spaces with swings, etc., erected for the use of the children.

The King's Park, which is Crown land, extends to 156 acres, and the Gowanhills is 34 acres in extent, which denotes that we are well above the minimum standard proposed.

SMOKE ABATEMENT.

Forty-seven observations of 60 minutes each were made to the various factory chimneys within the Burgh.

The present powers for dealing with this evil are very inadequate and very little can be accomplished until the existing law is greatly strengthened.

SHOPS ACT AND SHOPS (EARLY CLOSING) ORDER.

During the year 526 visits were made in order to detect any contravention of the above Act and Order. Special attention was paid to all the shops during the Christmas Holidays to discover if any shopkeeper kept his place of business open both on Wednesday and Saturday. I found, however, that the holiday was well observed, no contravention of the Shops Act being reported. In connection with the Early Closing Order, it was found necessary to warn 6 shopkeepers regarding irregularities.

BURGH POLICE (SCOTLAND) ACT.

(a) Whitewashing and Painting of Common Stairs and Passages.

The following table will show the number of inspections, and notices issued, in terms of the Burgh Police (Scotland) Act, 1892, Section 117, during the year :—

District	First Inspection		Second Inspection		Final Inspection	
	No. of Passages and Staircases Inspected	No. of First Notices Issued	No. of Passages and Staircases Inspected	No. of Second Notices issued	No. of Passages and Staircases Inspected	No. of Final Notices Issued
No. 1 or Broad Street District	331	34	34	27	27	11
No. 2 or Cowane Street District	349	28	28	18	18	7
No. 3 or Port Street District	230	24	24	17	17	4
Totals	910	86	86	52	52	22

The total inspections made were 1,048, and the total number of notices issued was 160. The roof and the upper part of the walls of the Arcade—which runs from King Street to Murray Place—were cleaned down and painted.

(b) Sweeping and Washing of Common Stairs and Passages.

Four hundred and eighty-five visits of inspection were made to properties regarding the sweeping and washing of common stairs and passages. The number of notices issued was 127.

(c) Cleansing Areas.

Forty-two visits were paid to areas attached to tenemental properties, and 27 notices were issued.

(d) Cleansing of Dirty Houses.

Thirty-six visits were paid to dirty houses. 29 notices were served; it was necessary however, to serve 4 final notices.

(e) Overcrowding.

Thirteen cases of overcrowding were dealt with during the year. One of these cases occurred in a ticketed dwelling-house, the other twelve cases occurring in dwelling-houses (non-ticketed). Great difficulty is experienced in dealing with overcrowding, for owing to the lack of housing accommodation these cases cannot be properly dealt with.

CONTROL OF ORDINARY INFECTIOUS DISEASES.

During the year 76 intimations to Headmasters of schools, and 13 intimations to the Librarian of the Public Library were issued.

One hundred and eighteen apartments, with bedding, etc., were disinfected after patients were removed to Hospital, or, if treated at home, after they had been certified by the Medical Practitioner as free from infection. Sixteen notices were served under Sections 50 (2) and 53 (2), and the number of visits of inquiry made was 122.

CONTROL OF TUBERCULOSIS.

During the year 14 houses were thoroughly disinfected after deaths from Pulmonary Tuberculosis, or after patients suffering from the disease, were removed to a sanatorium or other residence.

Fourteen sets of bedding and body clothing were removed to the Infectious Diseases Hospital, Kildean, and as requested were disinfected by steam or destroyed by fire.

Twelve letters were issued to proprietors requesting them to strip and re-paper the apartments in which patients had died.

BURIAL GROUNDS.

The Mar Place and Valley, Ballengeich, Snowdon, and St. Ninians Cemeteries are the 4 burial grounds within the Burgh. These grounds are under the charge and control of the Superintendent (Mr. Thomas Lees), and are all kept in excellent condition.

INTERMENTS.

Under the Public Health (Scotland) Act, 1897, Section 69, 3 burials were undertaken during the year, 2 males aged 31 years and 2 hours respectively, and 1 female aged 86 years. The total cost amounted to £10 17s. 6d.

APPENDIX.

STATEMENT BY SANITARY INSPECTOR OF PROCEEDINGS UNDER THE PUBLIC HEALTH AND OTHER ACTS DURING 1926.

Subordinate Sanitary Inspectors employed	1

I.—NUISANCES.

Complaints received	358
Intimations served under Sec. 19	173
Notices served under Sec. 20	—
Cases in which legal proceedings were taken	—
Cases in which legal proceedings were successful	—

II.—WORKSHOPS.

Inspections	131
Notices served under Sec. 2 (3) of Factory and Workshop Act, 1901	2
Cases in which legal proceedings were taken	—
Cases in which legal proceedings were successful	—

III.—TENTS AND VANS.

Inspections	11

IV.—UNDERGROUND DWELLINGS.

Reported to Local Authority	—
Notices to Owners (Sec. 74)	—
Cases in which legal proceedings were taken	—
Cases in which legal proceedings were successful	—

V.—COMMON LODGING-HOUSES.

On Register at 31st December, 1926	—
Common Lodging-houses belonging to the Local Authority	—
Inspections between 8 a.m. and 10 p.m.	—
Inspections between 10 p.m. and 8 a.m.	—
Intimations of Irregularities sent to Keepers	—
Cases of Infectious Disease reported to Medical Officer (Sec. 97)	—
Unregistered Premises dealt with	—
Cases in which legal proceedings were taken (breaches of bye-laws, etc.)	—
Cases in which legal proceedings were successful	—

VI.—HOUSES LET IN LODGINGS.

On Register at 31st December, 1926	7
Inspections	125
Cases in which legal proceedings were taken	—
Cases in which legal proceedings were successful	—

VII.—INFECTIOUS DISEASES.

Visits of Inquiry, etc.	122
Patients removed to Hospital	106
Persons removed to House of Reception	—
Notices served under Sec. 50 (2) Notices served under Sec. 53 (2)	16
Intimations to Education Authorities, Teachers, etc.	76
Houses or Premises disinfected	118
Sets of Clothing, Bedding, etc., disinfected or destroyed	266
Cases in which legal proceedings were taken	—
Cases in which legal proceedings were successful	—

VIII.—BURIALS.

Burials undertaken in terms of Sec. 69	3

IX.—SLAUGHTER-HOUSES AND OFFENSIVE TRADES.

Applications under Sec. 32 for sanction to establish	2
Applications granted	2
Applications under Sec. 33 for Licence or Renewal of Licence	—
Applications granted	—
Public Slaughter-houses (if any) belonging to Local Authority	1
Private Slaughter-houses	—
Unlicensed Slaughter-houses dealt with	—
Inspections of Slaughter-houses	37
Inspections of other Offensive Businesses	24
Number of such other Offensive Businesses at 31st December, 1925	—
Cases in which legal proceedings were taken (breaches of bye-laws, etc.)	—
Cases in which legal proceedings were successful	

X.—UNSOUND FOOD.

Inspections under Sec. 43—(a) Meat	85
(b) Other Foods	75
Seizures of Unsound Food—(a) Meat	4
(b) Other Foods	—
Animals or carcasses or articles of food destroyed with owner's consent by or at the instance of the Sanitary Inspector	—
Cases in which owners of Unsound Food were prosecuted	—
Convictions in connection with above cases	—

XI.—ANALYSIS OF SAMPLES.

	Sale of Food and Drugs Acts	Condensed Milk Regulations	Dried Milk Regulation
	Number	Number	Numbers
Samples procured for analysis	61	2	...
Certified to be genuine	57	2	...
Certified to be adulterated	4	...	...
Cases in which legal proceedings were taken	3	...	...
Cases in which legal proceedings were successful... ...	2	...	...

XII.—RAG FLOCK ACT, 1911.

Samples procured for analysis	—
Certified to conform to Board's standard	—
Certified not to conform to Board's standard	—
Cases in which legal proceedings were taken	—
Cases in which legal proceedings were successful	—

XIII.—BYE-LAWS.

Inspections in carrying out bye-laws relating to—	
(a) Pigstyes	61
(b) Public Conveyances	—
(c) Buildings	—
(d) Cleansing in Special Scavenging Districts	—
(e) Other sanitary matters	—

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